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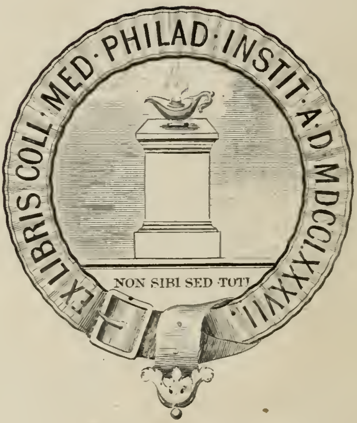

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Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Communications.

THE SURGICAL TREATMENT OF EPILEPSY

ARISING FROM INJURIES OF THE HEAD, WITH SPECIAL REFERENCE TO THE USE OF THE TREPHINE.*

BY W. T. BRIGGS, M. D.

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No instance in the history of medicine affords a more brilliant result of experiments on animals, in the elucidation of disease, than those which have been made in the investigation of the essential nature and pathology of epilepsy.

For centuries literally nothing was known of its nature, causes, or treatment. The group of symptoms, however, which characterizes its attacks was so marked and prominent that even the most casual observer could not fail to be impressed. Accurate descriptions of the disease have been transmitted to us from the earliest period. Hippocrates, especially, has, in his own inimitable manner, drawn a vivid and lucid pen-picture of the symptoms of the disease. In the absence of physiological knowledge and of pathological data from which to form an idea of the essential nature of epilepsy, it is not wonderful that

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no progress beyond the observation of its coarser manifestations should have been made, notwithstanding the many efforts of the most brilliant minds to elucidate its nature or the various theories advanced to explain its phenomena.

For centuries not a single ray of light was shed on the subject by which the impenetrable darkness surrounding it might be dispelled.

Marshall Hall, by his experiments on animals, was the first to illumine this hitherto obscure subject and to blaze a path in the pathological wilderness by which all investigators might be guided. In 1850 he made a full and explicit enunciation of his theory of the reflex action of the nervous system (Croonian Lectures, delivered at Royal College of Physicians, London), and by his clear and lucid explanation enchained the attention of the profession over the whole world. His theories of reflex action of the nervous system are now universally received and acknowledged. He pointed to the medulla oblongata as the center of the reflex nervous system, and proclaimed that all paroxysmal seizures were one and the same, differing only in degree; that the causes of these paroxysmal seizures were centric and eccentric; that these causes act on the reflex nerve center; that this center exhausts itself upon being called into powerful and frequent action, but gradually recovers, thus accounting for the cessation and recurrence of the seizures; and he especially claimed that epileptic attacks, like every reflex action, were always excited.

The name of this great philosopher and physiologist will ever be remembered, when the subject of nervous diseases is discussed, as the pioneer in that important and difficult branch of medicine—as the first to point out the way in which inquiries should be prosecuted. He gave such an impetus to the investigation of physiological and pathological studies that other energetic and enthusiastic investigators speedily followed.

Brown-Sequard, one of the most indefatigable workers in experimental physiology and pathology, after he had for twenty-five years investigated epileptic convulsions artificially produced in guinea-pigs, demonstrated that convulsions resembling epilepsy were generally developed by wounding various portions of the nervous system; that in a short time after such injuries a state of increased irritability was developed and the epileptogenic zone, characterized by a certain degree of hyperesthesia of the cheek and the antero-lateral regions of the neck was formed, and that slight irritations of this region, by pinching the skin or pulling the hair, were sufficient to produce attacks. His conclusions are that the attacks are alone dependent upon a peculiar irritation, starting from the cutaneous ramifications of some centripetal nerves, and that even when they have their primitive cause in the nervous centers, some cutaneous nerve filaments are brought into a state of irritation and thus excite the attack.

The views of these investigators have, in the main, been confirmed and sustained by the researches of Schroeder Van der Kolk. According to this pathologist, epileptic convulsions are caused by an exalted action of the ganglionic cells of the medulla oblongata which are more or less rapidly exhausted by the spasms. The irritability of the cells having been restored by rest and nourishment, the capacity for reflex action is regained, and, upon the application of an external irritant, convulsions again ensue. He is of the opinion that though the primary irritation might be remote, a morbidly elevated sensibility of the medulla oblongata is always present and is the essential cause of the attack, rendering the organ mentioned more capable of discharging itself in involuntary reflex movements.

Nothnagel has confirmed the opinion of Van der Kolk by proving, experimentally, that there is a convulsive center in the medulla oblongata, a circumscribed spot through which general convulsions may be induced by reflex excitation. The medulla oblongata is also the seat of the vaso-motor center, the respiratory centers, etc., which centers are always more or less affected in epileptic seizures. It is, therefore, reasonable to conclude that the medulla oblongata is the chief seat of the disease. This theory harmonizes the physiological principle with the pathological data, and it is now well understood that peripheral irritation conveyed to a susceptible medulla, whether from another part of the nervous system, from some viscus, or from a cutaneous nerve, equally excite epileptic convulsions.

Although the malady is characterized by symptoms clearly referable to certain parts of the nervous centers, no marked physical changes of those parts are discoverable after death. It is true that Van der Kolk, by microscopical examinations of the pons and medulla of epileptics, discovered certain changes, to wit, enlargement of the vessels, particularly in the posterior part of the medulla, together with an albuminous exudation between the nerve fibers, leading to induration, then to fatty degeneration and softening. Echeverria, by his post-mortem examinations and experiments, confirmed the opinion expressed by Van der Kolk. Myers also discovered a diseased condition of the blood-vessels, fatty degeneration and sclerosis, not only of the medulla, but also of the upper part of the spinal cord and of the cerebellum. There is scarcely a disease or injury of the cranium or its contents which has not been noticed in connection with the disease, but these various conditions have often been found in the bodies of persons who died of other diseases, and who had never been the subjects of epileptic convulsions. Again, examination of those parts in epileptics who had died from intercurrent diseases have revealed not the slightest changes. It is a fact fully authenticated, that no invariable lesion of the nervous centers, or of any other part, has been determined on as the *causa proxima* of epilepsy. It is probable that various pathological changes in the brain or its membranes, or in the nerves, whether sensor, motor, or sympathetic, may excite the parts of the pons and medulla in which the reflex cells are located and give rise to the group of symptoms which characterizes epilepsy, just as a sensory nerve always gives expression of pain to different impressions. No discoverable pathological lesion is present in the earlier stages of the disease, and those found in the post-mortem examinations of epileptics are secondary or accidental. Epileptics seldom die from the disease, and although attacks may be of frequent occurrence and of great severity, they may live for many years in the enjoyment of perfect health, and are able to attend to the most weighty duties of life. History tells us of a number of the most gifted men, whose achievements with pen or with sword stamped them as individually great, who were the subjects of frequent attacks of epilepsy.

Epilepsy should then, in my opinion, be regarded as essentially a functional disease; for, while it is generally conceded that every vital act is followed by some change in the organism and every diseased condition must necessarily be accompanied with change of tissue, science has not yet been able to demonstrate those changes.

The origin of the disease is doubtless due to an increased excitability of the medulla oblongata and pons varolii—the reflex nerve centers — in consequence of which these reflex centers respond to peripheral irritation much more readily than in their normal condition, and the motor manifestations, although they do not differ in their nature from the normal reflex movements, are intensified far beyond their normal degree.

The cells of the excito-motor and vaso-motor centers are so highly charged with excitability that they explode on the application of a stimulant conveyed through the nerves. This part of the central nervous system has been aptly compared to a Leyden jar, which explodes upon the contact of an electrode when sufficient tension has been attained (Van der Kolk). The state of tension in the medulla oblongata is gradually induced until it reaches its acme, when from the action of some eccentric peripheral irritant, spasm succeeds spasm, until the excitability is exhausted. It again accumulates, to be again discharged in the well-known routine of the epileptic cycle.

The phenomena of an epileptic seizure are due, in the first instance, to excitation of the vaso-motor center, which induces constriction and consequent anemia of the cerebral vessels, causing the loss of consciousness from the abolition of the activity of the cortex cerebri. Often this is the only phenomenon met with, and it then constitutes what is known as *petit mal.* But in a larger number of cases the excitation of the *convulsive center* comes on simultaneously and gives rise to general convulsions. The spasm of the cerebral vessels, as well as those of the face, is of very short duration, and is rapidly succeeded by paralysis and venous congestion of those vessels, which is greatly aided, if not caused, by the spasmodic contraction of the muscles of the neck. The interference with the respiratory act and the intense venous congestion of the cerebrum readily account for the coma succeeding the convulsion.

The experiments of Kussmaul and Tenner prove that cerebral anemia stands in definite relationship to epileptic seizures. Donders made direct examination of the brain by means of a watch-glass placed in the opening of a trephined skull, and demonstrated experimentally the anemic condition of the brain. Others have contended that epilepsy depends upon cerebral hyperemia. Like most contested points, there is truth on both sides of the question. There is, doubtless, in the commencement of every attack, upon the discharge of the vaso-motor center, a spasm, with consequent anemia of the cerebral vessels, but this effect is momentary, and is succeeded rapidly by intense venous congestion.

A case in which I resorted to the trephine for the relief of traumatic epilepsy, in 1878, illustrated in an admirable manner the changes that take place in the intra-cranial vessels during a convulsion. A spur of bone from the inner surface of the button, which was situated on the top of the head directly over the sagittal suture, had perforated the dura mater and entered the longitudinal sinus. As soon as the bone was removed from its position by the trephine a continuous stream of blood followed. A soft sponge was at once pushed into the opening for the purpose of arresting the flow. A violent convulsion was immediately excited when the sponge was removed. For perhaps half a minute the face became very pallid and the flow of blood from the opening in the sinus ceased entirely ; then the face became purple, and the blood gushed forth in a large stream with great force. The sponge was again pressed into the opening, with the effect of restraining the hemorrhage, and retained in position with a bandage. The patient recovered without further trouble.

It will not be denied, I think, that *two factors* are essentially necessary in the development of every epileptic seizure. First, the increased and persistent excitability of the reflex centers, and, second, the peripheral irritant. The disease can not occur without the concurrence of both of these factors. An individual may have all the predisposing circumstances necessary to place the reflex centers in the highest degree of susceptibility, and this susceptibility may lie dormant for years, even for a life-time, unless the exciting cause comes into action. It is true that in many cases no peripheral irritant can be discovered, and oftentimes even the influences which develop the increased excitability of the reflex centers are not manifest. That the exciting cause can not be ascertained is no argument against the existence of such. In a great number of diseases the causes acting in their production are entirely unknown. It has been aptly said, "Happy is the physician who knows the cause of disease," for most usually when the cause becomes known its essential nature and treatment are easily discovered.

Inherited nervousness is the most frequent cause of the exaggerated excitability of the reflex centers. It is not essential that the parents should have had epilepsy to transmit the peculiar susceptibility to the offspring. It is only necessary that the father or mother, or some ancestor, should have been cataleptic, neuralgic, or the possessor of a very irritable nervous system. The irritable, sensitive medulla and pons varolii are inherited, not the epilepsy.

The nervous erethism engendered during dentition and at the period of puberty often develops the peculiar predisposition. So also will the long-continued use of alcoholic stimulants, sexual excesses, syphilis, and, in fact, any cause which is calculated to enfeeble the general system or to induce hyper-sensibility of the nervous system. Probably no circumstance more frequently predisposes the reflex centers to abnormal discharges than powerful and persistent local irritations. The constant fretting of these centers is almost certain to develop the necessary excitability; besides, it has been shown by the experiments of Tiesler, Klemm, Niedieck, and others, that these local irritations often set up ascending neuritis in the peripheral nerves which gradually approaches the central nerve mass, involving it in the same diseased action. Hayem says the path of transmission of the irritation from the nerve to the spinal center is two-fold—first, by the interstitial tissue; and, secondly, by the axis cylinders which are swollen and moniliform in the central end of the nerve.

The exciting causes of epilepsy, which are supposed to exercise a more direct and manifest influence in the production of the disease, are as numerous as the circumstances which may give rise to irritation in various parts of the body, as teething, intestinal worms, indigestible food, disorders of menstruation, genital irritations, neuromata, lesions of nerves, retraction of cicatrices, injuries of the skull, foreign bodies, etc. I wish, however, to restrict my remarks to epilepsy arising from injuries of the head, which demand the consideration of operative measures.

Echeverria estimates that full ten per cent of all epileptic seizures are due to injuries of the head. Such wounds are more likely to excite attacks than those of any other part of the body, for the reason, probably, that the branches of the trigeminus nerve, which has its origin directly from the reflex nerve mass, are freely distributed to parts of the scalp, and to every part of the dura mater; peripheral irritations are, therefore, more readily transmitted; the flame is much nearer the combustible. Even when the primary effects of such wounds have been dissipated, or when they were too slight to have claimed attention, they are not infrequently, sooner or later, followed by the most distressing attacks. While it is true that great violence is often inflicted on various parts of the head without the slightest disturbance of the nervous system, it is equally true that epileptic attacks often occur from injuries of the most insignificant character. Westphal has proven conclusively by experimentation that epileptic convulsions, recurring every two or three weeks, may be produced by slight blows upon the heads of guinea-pigs. A case illustrative of this fact came under my observation in the human subject a few years since. A bright lad, twelve years of age, who had no hereditary predispositions, while running a foot-race with some companions, struck the right side of his head against a tree, producing a contused wound of the scalp, just above the lower border of the parietal bone. A short time afterward he was seized with a convulsion. He had a recurrence of the spasms in three weeks much more severe than the first, and they have since continued to recur at much shorter intervals and with greater violence, till now he is in a state of confirmed fatuity. I was consulted by the father in reference to the use of the trephine in this case, but after mature consideration I became satisfied that the indications for the operation were not sufficiently marked, and therefore declined interference. He afterward fell into the hands of other surgeons, who did trephine the skull, but with no benefit.

It is impossible to predict the consequences of violence inflicted on the head, however severe its nature or however trivial its morbid manifestations. It is equally difficult to foretell the time when the evil results will take place. It may be in a few hours or days, or it may be postponed for twenty years. Professor Dudley used to mention in his lectures a case in which epilepsy resulted from an injury of the skull, inflicted sixteen years before, which was entirely cured by the trephine.

Several cases have come under my observation in which ten years elapsed before the occurrence of the attacks.

The trauma may involve merely the scalp in a contused or lacerated wound, which, in healing, forms a firm, hard cicatrix, entangling some of the terminal extremities of the nerves, thus setting up a peripheral irritation that in course of time excites an attack of epilepsy. Liddel, in a very interesting paper, published in the Transactions of the American Neurological Association, (volume i, p. 157, 1875), calls attention to the fact that the entangling of nervous fibrillæ in cicatrices of wounds gives rise to neuralgia and other neuroses. The same condition may excite epileptic attacks in persons who possess the necessary susceptibility. Five cases of epilepsy have come under my observation which could certainly be traced to this condition as a cause. In each of these cases the cicatrices were the seat of pain and of a burning sensation which occurred at irregular intervals, lasting for a few days, then disappearing for a time. Increased sensibility, together with elevated temperature of the part involved, were constantly present. The morbid sensibility was so acute in several of the cases that the slightest contact with the seat of the original wound gave rise to great suffering, and in one case pressure upon or even handling the part in the necessary examination was followed by an attack of epilepsy within the succeeding twenty-four hours. In every case the patients were gloomy, despondent, and listless, irritable, irascible, and disinclined to any kind of business. The time which elapsed from the reception of the wound to the first epileptic seizure varied from two months to three years.

A blow on the head, whether the scalp is lacerated or not, may result in serious mischief to the bones of the cranium without fracture. Pericranitis may be developed, with subsequent disease of the bones, or the bones may suffer violent contusion at the time of the injury. In either case the diseased action is very likely to be followed by osteo-sclerosis, or by hypertrophy from the persistence of hyperplastic inflammation. The eburnation or the hypertrophy is most usually diffused, but is sometimes localized and confined to a small surface. I have met with several cases in which the eburnation involved but a very limited portion of bone, and others in which the hypertrophy was exhibited in the formation of small nodules of bones, some not larger than a garden pea, others as large as an almond. In two cases which have fallen under my observation there were narrow spurs of bone growing from the inner surface of the calvarium nearly one half an inch in length.

When the eburnation or the hypertrophy is localized, epilepsy is much more liable to be excited than when they are diffused. The effect of pressure by points upon the brain or its membranes never fails to give rise, sooner or later, to the most serious neurotic affections. The presence of a point of irritation caused by such changes in the bones is indicated by pain, a sense of pressure or weight, or of soreness in the injured parts, together with headache, and at times with symptoms referable to disturbance of the motor area of the brain.

Again, the inflammation may be of the destructive variety, and lead to necrosis or osteo-porosis, which are followed by the same symptoms that attend those pathological conditions in other parts of the body. It is not difficult to understand these pathological changes in the cranial bones from blows upon the head, when we reflect, in the first place, that the relationship is so close, the association so intimate between the pericranium and the dura mater, that a morbid state of the one very rarely exists without implicating the other, and in the second place, that the coverings of the brain, the tutamina cerebri, are composed of so many histological elements, which differ widely in their capacity for healing. The common integument is more vascular, more sensitive, and enjoys in a higher degree the power of restoration than the parts which it covers, so that while it may have quickly recovered from the effects of a wound, the parts beneath are still laboring under the influence of the injury, and the changes mentioned may result from perverted nutrition or from pathological action.

But the most frequent causes of traumatic eplilepsy are old fractures of the cranial bones ; fractures which may have been produced months or years previously. The brain is protected against injury by a bony spheroid which is accurately adapted to its surface so that any irregularity of the internal surface of the bony envelope produced by fracture will certainly impinge to a greater or less extent upon the membranes of the brain. The point of pressure will in many cases give rise to meningeal and cerebral irritation associated with symptoms of concussion or compression. Unless serious injury has been inflicted at the same time upon the brain or its membranes, these symptoms will pass off without any aid from the surgeon. The irritation, however, characterized by its special symptoms, will in many cases persist and demand the careful consideration of surgical means for its relief. The sentiment of the mass of the profession has been and still is in favor of non-interference in most fractures of the cranial bones with depression, unless attended with marked and persistent symptoms of compression of the brain. An exception, however, is made by the majority of surgeons in punctured fractures, and by some in compound. It is true, that when the inner surface of the depressed portion of bone is smooth and broad, the brain will readily accommodate itself to the pressure, however great it may be, and the primary symptoms will soon pass off; but when greatly depressed fragments of sharp, spiculated bone are driven upon, probably into, the cerebral mass, cerebral and meningeal irritation will speedily ensue and often run into fatal encephalitis. Under these circumstances the early resort to the trephine is, in my opinion, demanded to prevent the immediate consequences as well as to guard against the remote effects. If the trephine is withheld under these circumstances and the expectant treatment adopted in lieu, the patient may escape immediate death, but will live in constant jeopardy from the slow, insidious form of irritation which will often call for redress at some remote period. Even when the injury to the intra-cranial contents is not so great as to produce immediate effects, the slight point of irritation left will often sooner or later excite epileptic attacks. Again, it frequently happens that in the repair of broken fragments of the skull, osteophytes spring from the new bone formation which fills the interspaces between the fragments, and the pressure of their sharp points upon the membranes evokes the necessary amount of irritation for the development of the disease. Preternatural pressure upon the membranes of the brain may be borne without much evidence of its existence for a time, but if long continued will give rise to such irritation and increased sensibility at the point of pressure that bad results will almost inevitably follow. A person who is the subject of accentuated pressure upon the membranes of the brain from fractures of the skull is like one who has the sword of Damocles suspended over his head, which is liable at any time to fall with disastrous effect.

The inveterate nature of this distressing and terrible disease, and the doubt pervading the professional mind since the days of Hippocrates and Galen as to its entire and permanent curability, have caused epilepsy to be regarded as a reproach upon our art. An attack of the severer type of the disease overwhelms the subject and the friends with consternation, and its repetition, often frequent, robs them of confidence or hope of relief, while the display of its ensign to the physician and surgeon is a signal for a contest in which trustful and assured reliance in the resources of therapeutics or operative endeavor is either absent or greatly weakened. The history of the prognosis of the disease, as held by the great lights of our science, presents a varying view, some claiming a large majority of cases to be hopeless, while others of equal authority have with more patience and accuracy distinguished its types of different origin and causation, and have reached more favorable and auspicious conclusions. Under advancing knowledge of its essential pathology, the number of the latter is steadily increasing, and with reference to its treatment the appliances of the therapeutic armament are becoming more full and scientific, as well as satisfactory in results. The pathological postulate advanced in this paper is, that epilepsy is fundamentally reflex in its character, and this can not be challenged as to many expressions of the type known as epilepsia gravior. The opinion is herein ventured that the prognosis in those cases which are distinctly reflex, and which undeniably have their origin in eccentric irritations, under prompt and judicious treatment should be favorable; and that the removal and abatement of the irritant cause threatening or inducing the dire consequences of the disease is a rational and scientific procedure, in the highest degree justifiable in the hands of the discriminating surgeon. There can be no doubt but that the timely and skillful removal of the traumatic sources of peripheral irritation will yet relieve the profession of the pessimistic prognosis with which it has so long deemed it necessary to enshroud the hapless victim of epilepsy.

It has already been claimed that *two factors* are essential to every epileptic attack, viz., increased susceptibility of the reflex nerve centers and peripheral irritations, and that these conditions must be in operation at the time of the attack.

In November, 1879, a lad, seventeen or eighteen years of age, was received in our hospital suffering from frequent and violent attacks of epilepsy, which followed an injury inflicted on the head in a fall from a stable-loft some four or five years previous. The convulsions commenced about a year after the injury, and recurred at first once a month, but had gradually become more frequent, until he came into the hospital. He then had returns every week, and as many as fifteen or twenty during the day and night. The day after the attacks he usually got up and was apparently as well as ever with the exception of general soreness.

The seat of the injury, which was found on the forehead near the edge of the hair, exhibited a well-marked scar of the scalp, with a slight depression of the bone underneath. Constant pain and tenderness, greatly increased by the approach of the convulsions, were present. He was brought into the amphitheater of the hospital and examined by Professors Stephen Smith, of New York; Mussey, of Cincinnati; Choppin, of New Orleans; L. P. Yandell, of Louisville, and other distinguished gentlemen, delegates to the Health Association which was then in session in our city. Without a dissenting voice they concurred with me in the opinion that the trephine was not only indicated but urgently demanded.

The trephine was used in the presence and with the kind assistance of the gentlemen mentioned; the portions of bone removed exhibited small osteophitic growths along the line of the original fracture. The dura mater was apparently healthy. The wound was left open for free drainage. A short time after the patient was carried to the ward he had a severe convulsion, but this was the last he ever had. His wound healed kindly, and he continued to improve for more than two months: at this time it was noticed that he walked unsteadily and complained of vertigo. The unsteadiness of gait increased so that in a short time he reeled like a drunken man when he attempted to walk. His respiration became irregular and deglutition difficult, and at the end of five months he sank into a deep lethargy which ended in death.

A post-mortem examination revealed the medulla oblongata and pons very much softened, with greatly enlarged vessels, the pathological changes extending into the under surface of the cerebellum. In this case the removal of the peripheral cause put a stop to the oft-repeating spasms, although the medulla and pons were in that special condition which is most likely to give rise to the disease, and progressed to the death of the patient without a symptom of the return of the epilepsy.

The indication, then, to be observed in the treatment of the disease is to sever the combined action of these two factors; to break up the inter-dependence existing between them by (1) removing the existing cause, the peripheral irritation, and (2) by modifying or subduing the morbid excitability of the reflex center. In attempting to carry out the first indication of treatment in the cases to which my remarks are especially addressed, those arising from injuries of the head, too much care and attention can not be bestowed on the subject. Each individual case should be investigated with the view of determining the exact nature and situation of the exciting cause, of tracing out the source of the peripheral irritation.

It frequently happens that old injuries of the head, even when associated with epilepsy, have no causative effect in the production of the attacks—that they are merely incidental, while the true exciting cause is situated in some remote part of the body.

A little girl from McMinnville, Tenn., twelve years of age, was brought to me, who had four years previously fallen from a porch, a distance of nine feet, and injured her head, as well as the left leg between the knee and ankle. She was rendered insensible for several hours, but had no further trouble from the head injury, which healed kindly and rapidly. Her leg, however, continued in an inflamed condition, and eventually an abscess formed, and was opened. In the course of a few months a number of fistulous orifices opened, through which a probe could be passed to denuded bone. Two years subsequent to the fall she was attacked with epilepsy, which continued to recur every few weeks until she was brought to the city and placed in my care. Upon examination a well-marked depression of the skull was discovered just above the anterior-inferior angle of the parietal bone. There were, however, no symptoms indicating a point of irritation connected with it. There was neither pain, nor increased sensibility, nor elevated temperature, nor other evidences of trouble about the part involved in the original head wound. The skin of the leg about the injured region was of a dark livid hue, and was perforated with a number of fistulous openings, through which the probe detected dead bone. The limb was the seat of continuous pain and increased sensibility, which were always greatly aggravated upon the approach of an epileptic seizure. An operation for the removal of the dead bone was made. She has never had a convulsion since, and is now, five years afterward, in the enjoyment of the most excellent health.

In this case, though there had been a fracture of the skull, with well-marked depression of bone, no symptoms of irritation at the seat of the injury of the skull existed. On the other hand, a peripheral irritation was kept up by the necrosed bone of the leg which culminated in the development of the epilepsy.

If the epilepsy is dependent upon the entanglement of nervous fibrillæ in cicatrices of the scalp, and the symptoms (increased sensibility, pain, elevated local temperature, etc.) point to the original wound as the source of the irritation to which the attacks are due, it is the imperative duty of the surgeon to excise the old scar, with its included fibrillæ of nerves, and thus abate one of the factors which is essential to the continuance of the disease. No other remedy offers any hope of relief. In the five cases of this character which have fallen under my observation, the cicatrix was thoroughly removed and the wound left open to heal by granulation. In all of these patients the attacks were arrested. Two have been recently examined, after three years' time.

In the case of a gentleman from Mississippi, twenty-three years of age, the injury was inflicted on the forehead, extending from the edge of the eyebrow to the coronal suture, by a piece of wood, driven off while splitting fire-wood. A firm, indurated cicatrix marked the site of the original wound. The scar was the seat of constant pain and was very tender to the touch, the most sensitive part corresponding to the course of the supra-orbital nerve. The epileptogenic zone was well marked. He had been the subject of epilepsy for three years and had taken all the usual anti-epileptic remedies. The first attack came on eight months after the injury and recurred every two weeks, preceded by increased local pain, severe headache, etc. The whole of the scar was carefully dissected out, the incision extending downward so as to include the supra-orbital nerve from its passage through the supra-orbital foramen to as near its terminal branches as possible. The night following the operation he had two severe convulsions. Since then he has been entirely free from the attacks, now three years.

In May, 1880, while attending the meeting of the American Medical Association, in Atlanta, I was consulted by a gentleman from Alabama, aged forty-five years, who had been suffering from epilepsy for more than a year, arising, as his physician thought, from an injury to the skull inflicted by robbers with a rough stick. The scalp was severely lacerated and the patient struck insensible, in which condition he remained for a number of hours. He gradually recovered from his stupor and managed to reach his home, when his wound was dressed by his physician. The wound healed but left a very tender, irritable scar. Convulsions followed six months after the injury and recurred sometimes once and sometimes twice a month. More than a year had elapsed and he was still the subject of frequent attacks of epilepsy. Upon examination, a painful, sensitive, and puffy cicatrix was found situated over the junction of the frontal and parietal bones of the left side. The general health of the patient was indifferent. He was feeble, nervous, and sleepless with indigestion, constipated bowels, etc. With the kind assistance of Prof. Gunn, of Chicago, Prof. Lankford, of St. Louis, and others, I excised the tender and sensitive scar to the bone, the surface of which was roughened and irregular. It was the opinion of Prof. Gunn that the trephine should have been used, to which opinion I was myself inclined; but, having no instruments except those of a pocket-case, I had to content myself with what was done. The patient quickly recovered from the operation and returned to his home. I received letters from him frequently for two years. He had no more convulsions, but his health remained bad and he continued very despondent.

It may be safely concluded that when the symptoms point to an old scalp-wound as the source of the eccentric irritation which gives rise to the epileptic attacks, the indication is clear and unmistakable, to excise the cicatrix with its included fibrillæ of nerves.

If the epilepsy is the sequence of a contusion of the cranial bones which has caused hyperplastic inflammation resulting in osteo-sclerosis or hypertrophy, and there are unmistakable evidences of a peripheral point of irritation from the pressure of thickened and irregular bone, or from intra-cranial effusion induced by the diseased action, the trephine may be resorted to with the greatest hope of success. The sclerosis or hypertrophy is sometimes circumscribed and limited to a small point, an exostosis or nodule growing from the inner surface of the skull, at the seat of the original wound, which may be included and removed by the single application of the trephine. Even when these changed conditions are more or less diffused, a special point of irritation may be present, indicated by pain of a dull, heavy character, which, if not constant, always occurs at the same point. The removal of the bone covering this fixed point of irritation will usually arrest the paroxysms of epilepsy.

In other cases many applications of the trephine are necessary to relieve the pressure of the ingrowing bone. In one case in my own practice six large crowns of the trephine were found necessary to surround and separate the thickened and roughened bone, which, after the angles were rounded off with Hey's saw, left an opening as large as the palm of the hand. Yet the patient recovered without an unpleasant symptom, and was cured of his epilepsy.

In those cases which can be referred to the irritation caused by necrosed or carious bone there are present, in addition to the signs of local irritation, the usual symptoms which characterize the presence of diseased bone. With these symptoms pointing to the origin of the epilepsy, the trephine is urgently demanded, and should be resorted to without hesitation. The operation should accomplish the removal of the whole of the diseased bone, however extensive. In one case, Dr. Stephen Smith removed the whole of the right parietal with a great part of the frontal and occipital bones, which were in a state of caries, the result of a traumatism. Professor Gross reports a case in which a portion of necrosed bone was incarcerated by an overlapping ledge of bone. The sequestrum was not only prevented from escaping in consequence of the narrow opening, but the irritation which its presence exerted upon the brain and its membranes caused repeated attacks of epilepsy, which permanently disappeared upon the extraction of the offending substance. (Gross' Surgery, 1882, p. 88.)

Two very interesting cases of epilepsy, due to necrosis of the cranial bones, have come under my observation:

1. A steamboat captain, thirty years of age, who had been for several years the subject of constitutional syphilis, was struck

with a walking-stick on the left side of the upper part of the frontal bone. The wound inflamed, and in a few months the skin covering the part was perforated by a number of fistulous openings which communicated with the dead bone. Eight months afterward epilepsy set in and continued to recur with increasing severity and frequency for nearly a year afterward, when he came under my care. The symptoms pointed clearly to the necrosed bone as the exciting cause of the convulsions. The whole of the dead bone, the size of a silver dollar, was removed by the trephine and Hey's saw. He had two convulsions the day following the operation, but recovered entirely, and has remained free from epileptic attacks.

2. In the second case, which was reported in the Nashville Journal of Medicine and Surgery, 1866, a young man twenty-three years of age was wounded in the battle of Resaca, Ga., by a minie ball in the left temporal bone, just above the ear. He was carried to the hospital and examined by the surgeon in charge, who pronounced it a mere scalp wound, and ordered cold water applications. The patient was confined to his bed for a week with fever, but gradually recovered sufficiently to act as a ward nurse. He served in that capacity but a short time, as his mind became more and more feeble, until he could no longer recognize his own friends. He was then discharged from the service and carried to his father's home in Jackson County, Tennessee. There he remained in a state of imbecility for a year. Four months after his return home he was seized with severe convulsions, which recurred two or three times a week. Eight months after the development of epilepsy he was brought to Nashville and placed in my charge, the most deplorable case I ever witnessed, a driveling imbecile, with almost daily convulsions, and incapable of attending to the calls of nature. An examination of the site of the wound revealed a large linear cicatrix an inch above and a little in front of the left ear; about an inch and a half posterior to the ear and on a line with the scar a small pouting orifice was found, giving exit to pus. The probe passed into the small opening came at once

in contact with dead bone. With very little hope of relief from the desperate condition in which the patient was placed, I proposed to remove the diseased bone with the trephine, which proposition was eagerly accepted by the friends of the young man. An oval flap was raised and a large-sized trephine applied. In a very few turns of the instrument the bone was cut through and removed. To my utter astonishment, immediately beneath and embraced by a few fibers of the dura mater *was an ounce minie ball*, which was quickly turned from its bed. The patient recovered after a pretty sharp attack of erysipelas of the scalp. He had a few light convulsions after the operation, when they ceased to return. His health and the condition of his mind gradually improved, but it was six months before he was able to converse intelligently, or to attend to his own wants. He has never been the bright boy he was before he received the wound. In a conversation with him three years since, he told me that the last thing he recollected was when he was in the battle and the balls were flying so thick and his comrades falling so fast around him that he pulled his slouch hat down over his ears and eyes that he might not hear the unpleasant whistle of the balls or see his comrades fall. His life was a blank to him until several months after the operation.

If the epileptic attacks are referable to marked depression of the bone or to the formation of osteophytes or other changes the result of old fractures of the skull, and the symptoms point clearly to the original wound as the seat of the peripheral irritation, the trephine should be appealed to without the slightest hesitation at the earliest moment possible and the sources of local irritation removed. In such cases the judicious use of the instrument is capable of effecting great and lasting benefit to patients and honor to the profession.

The practice of trephining the skull for the relief of epilepsy was resorted to by the old surgeons without discrimination and without reference to any special indication. Such reckless abuse of the operation caused it to fall into disrepute from which it has never fully recovered. Prof. Dudley, of Lexington, Ky., was the first in this country and possibly the first in the world to advocate and practice the operation from a rational standpoint. The brilliant results which he obtained from the use of the trephine in cases of epilepsy caused by injuries of the head arrested the attention not only of his pupils, who were scattered all over the country, but also of the profession generally. Many American surgeons have since resorted to the operation for the cure of certain forms of epilepsy, among whom may be mentioned Warren, Hayward, Brainard, Dawson, Bigelow, Gross, Pancoast, Gilmore, Van Buren, Echeverria, Blackman, Sayre and others. From tables of the operation collated by Stephen Smith, Billings and Echeverria, ninety-two (92) American operations are reported, of which sixty-three (63) were cured, thirteen (13) ameliorated, two (2) not changed, fourteen died. Walsham, in the Bartholomew Hospital Reports of 1883, has collected eighty-two (82) cases, to which he has added forty-eight (48) collected by Billings and others, making one hundred and thirty (130) in all, of which number seventy-five (75) were completely cured, eighteen (18) improved, seven (7) unimproved or worse, thirty (30) died. To this table may be added thirty (30) cases of epilepsy from old injuries of the head operated upon by myself. Of these, twenty-five (25) were cured, three (3) ameliorated, one (1) not changed, one (1) died.

These statistics prove that the mortality following the operation of trephining the skull in traumatic epilepsy is not greater than that following other operations of equal magnitude. The hope may be reasonably indulged, from the great advances made during the last decade in the treatment of operation wounds, that the mortality in cases involving surgical interference in diseases and injuries of the skull, of the meninges, and of the brain itself may be still further reduced, and that the same improvements in the results of such operations may obtain as in those involving the peritoneum, which was formerly supposed to be as susceptible of rapidly fatal inflammations from traumatisms as the cerebral meninges.

That the operation may be followed by the full measure of success, it is essentially necessary that certain points of practice in connection with it should be thoroughly understood:

1. That the operation should be done as early as possible, because the long-continued irritation and interference with the healthy nutrition of the brain and nervous system will often beget a permanent impression, which will remain after the point of irritating bone has been removed.

2. The operation should be thorough and complete, for if all of the offending part is not removed no benefit will accrue.

3. The operation should be carefully and cautiously done. No one can foretell the changes that may have taken place in the parts around the injured bone, and a rude operation may cause irreparable mischief, which might have been avoided by one carefully planned and skillfully executed.

4. The wound should be dressed after the open method, or such arrangements made for drainage as will thoroughly effect the object, for a large amount of fluid is discharged from its surface, which, if confined, might cause undue pressure on the membranes and the brain.

5. The most careful after-treatment should be instituted, to prevent destructive inflammation.

With a strict observance of these precautionary measures, I think it may be claimed that the use of the trephine for the removal of points of irritation of the skull which are provocative of epilepsy is as legitimate as lithotomy for the relief of vesical irritation.

The removal of the irritating point of bone with the trephine will often cure the epileptic seizures permanently, without further attention, especially in those cases in which the peripheral irritation has originated and maintained the increased susceptibility of the reflex centers.

Dr. Dudley reported the case of young Goforth who, after he had been cured of epilepsy with the trephine, made many trips to New Orleans on flatboats and always walked back to his home. He never had a recurrence of his convulsions, notwithstanding the great exposure and fatigue to which he was subjected.

In 1862 a Confederate soldier received a fracture of the left parietal bone from a stone thrown by an infuriated farmer in western Virginia. He recovered from the immediate effects of the blow, but in five months afterward he was seized with epileptic convulsions which continued to recur for eight months, when he came to Nashville and entered the hospital for the purpose of submitting to an operation for relief. Upon examination the seat of the original wound exhibited a deep scar of the scalp and a well-marked depression of the bone. Constant pain and soreness were present at the point of injury, and the general health had become much impaired. The trephine was resorted to and the depressed bone removed. The patient never went to bed, but was well in a week. He returned to his home and spent a few months in comparative retirement, but soon becoming restless, organized a guerrilla band, and went into every species of excitement. He killed an old man in cold blood, was arrested by the Federal authorities, tried for murder, and sentenced to be hung. Before he was to be executed he effected his escape, and, singularly enough, went to his old haunts, organized another guerrilla band, committed all sorts of depredations on friend and foe, was at last surprised by a company of Federal cavalry, and after a desperate fight was killed. Yet during all the excitements incident to such a life he had no return of convulsions.

In some cases, appropriate and judicious treatment after the use of the trephine will effect a cure when the treatment without it would have been of no avail. It should not, however, be forgotten that one of the factors of the disease, viz., exalted susceptibility of the reflex centers, often continues in operation after the exciting point of irritation has been removed by the trephine, ready to be excited into activity by some other peripheral irritant. It is, therefore, the imperative duty of the surgeon to institute and maintain, after the operation of trephining for the relief of traumatic epilepsy, such a line of treatment as will in his judgement subdue the exaggerated excitability of the reflex centers and thus destroy the last link in the chain of morbid action.

POISONING BY CANNABIS INDICA,

TWO DRAMS OF HERRING'S ENGLISH EXTRACT INDIAN HEMP BEING TAKEN WITHOUT SUICIDAL INTENT.

BY A. B. COOK, A. M., M. D.

Mr. ———, age twenty-seven (an Englishman), height six feet; well developed; of good education; went in 1874 from England to India, and engaged as a clerk. He returned to England in 1878, and soon after came to the United States. While in India he was bitten by a species of asp called the yomali, from which he, for ten days, suffered acute pains and cramps. During this time opium, in ordinary doses, was prescribed, and from this small beginning the opium habit was contracted. He commenced with an aqueous solution of opium, said to be fifty per cent stronger than tr. opii; the solution was sometimes alternated with the tr. opii, the largest dose of the latter taken at one time being four ounces. At times he used, instead, gum opium, commencing with three grains; the dose was rapidly increased to sixty grains, which was taken just before eating supper. The largest quantity of the fresh gum opium taken in one day was three drams. He occasionally changed to sulphate of morphia, which he has now used exclusively for several years, this producing neither nausea nor a lock-up of the secretions, while its effects are both more pleasant and soothing. The largest dose of morphia he has taken at one time was twenty-five grains—his daily dose is twenty grains, always taken at one time, usually just before, but occasionally after supper, the effects of which last about twenty-four hours; or for about that length of time he feels, as he expresses it, his "normal level." The morphia has ceased to produce the agreeable sensations it formerly did; instead of the delightful and fascinating mental exaltation, it now causes more of a pure narcotic effect, but the desire to use it still clings to him. For two years after he came to the United States he abandoned the use of morphia; but mental depression, the result of business misfortune, tempted him to resume the old habit.

Occasionally he omits morphia for two days to relieve his system and restore the secretions, and on two occasions, by way of experiment, has substituted extract of Indian hemp. About six months ago he took one and a half drams of the extract without any perceptible effect. He says the extract was old, dry, deteriorated, and inert.

On 22d of May, 1884, about six o'clock P. M., a few minutes before supper, he tried his second experiment by swallowing, at one dose, two drams of the extract of Indian hemp (a genuine article, as the result proved), which quantity he estimated was an equivalent to his daily dose of morphia—twenty grains. Before the evening meal was finished he began to feel a tingling sensation in the muscles, dizziness, some mental excitement accompanied with fearful foreboding—no pleasant hallucinations at any time. After supper he retired to his room and soon became wild, and, at times, almost frantic. About an hour after taking the hemp, he called a friend to get an emetic. At this time he says that he experienced the most horrible oppression, beyond the power of words to express. He imagined that a wing, with a spike or claw attachment, was placed in his ear, and that it was constantly being carried further and further into his brain, accompanied with a thousand pulsations and indescribable heat and constant vibrations throughout every nerve and fiber of the system, with a feeling of immediate dissolution. It was during this stage he was restrained by a friend from jumping out of a window.

About one and a half hours after taking the drug he was vomited with mustard, salt, and warm water, and then drank half a gallon of hot coffee, which was soon ejected; he then took an emetic dose of ipecac. I saw him about eight o'clock; he was still able to talk when addressed, was wild and delirious with short intervals of apparent mental lucidity, expression anxious, eyes injected, pupils dilated and insensible to light, pulse 120, feeble, and easily compressed; respiration 10 to 12 per minute, shallow, labored, diaphragmatic; no chest expansion. When aroused he was at times belligerent, but when calmed by gentleness and kindness and asked why he wanted to fight, he said he thought an enemy was about to attack him. He had horrible feelings, thought he would certainly die, and that no treatment could reach his case. In the stages of excitement, he was unconscious of his actions and in every respect had when aroused the appearance of a violently insane man. I at once dispatched a messenger for carbonate of ammonia, whisky, and Harris's battery. In the meantime mustard and warm water were administered, and in ten minutes after twenty grains sulphate of zinc with copious draughts of warm water. Emesis was excited by titillating the fauces. In a few minutes a teaspoonful of mustard in half gallon of warm water was given as fast as he could be induced to swallow it, which was followed by copious vomiting free from any ingesta; after a few minutes' rest a half gallon of warm water was given, which was ejected clear, showing that the stomach was thoroughly evacuated and cleansed. After this the stomach did not reject any thing administered. The carbonate of ammonia was given in ten to fifteen-grain doses in mucilage, alternated with one ounce of good whisky, neither being given at regular intervals, but only as he was aroused by the battery and could be induced to swallow; but from half past eight P. M. to eight next morning he took three drams carbonate of ammonia and fully half a pint of whisky. During the night he drank considerable strong coffee. By half past nine P. M. he was completely under the narcotic influence of the hemp, pulse 130 to 140, feeble, thready, and at times scarcely perceptible; heart's action feeble, and giving out that peculiar metallic ringing sound frequently heard in approaching death; pupils dilated and insensible to light; respiration 10 to 12 per minute and abdominal. The thorax during respiration was as immovable as a fixed board. The battery had been commenced about nine P. M. in full intensity of current. One pole was applied to the spine, moving it slowly from the base of the cranium to the lumbar spine, the other was applied alternately to the pectoral muscles, over the region of the heart, around the margin of the ribs and the cartilages of the ribs and sternum, and over the cervical portion of the phrenic nerves to stimulate all the respiratory muscles. Benefit was soon produced. The patient was partially aroused from his stupor, had lucid intervals, could articulate a few words and swallow; pulse fell to 100, was stronger and fuller; respiration was increased to 14 and 16 per minute, with moderate chest expansion; but when the battery was omitted for a short time he relapsed into profound stupor, etc. In fact, for about two hours, under the almost constant use of the battery, he was in a state of stupid insensibility, without any muscular action except that caused by the battery. Occasionally he could be aroused to consciousness by the combined use of the battery, violent palpation with the open hand on the sides of the thorax and back, kneading over the ribs with the knuckles, and the application of ice over the spine and heart, applied by rapidly pressing to the skin and raising it up to produce the shock without chilling. When the stupor persisted for an unusual length of time I passed one pole rapidly over the forehead, face, and ears, pressing the sponge to the skin and quickly raising it, this intermittent current seeming more potent than the continuous, the quick succession of shocks being a more powerful stimulant. After one P. M. the same effect would sometimes result from active palpation, or rubbing over the ribs with the knuckles.

One peculiarity observed in the case was the firm contraction and resistance of the orbicular muscle when I attempted to raise the upper eyelid to test the condition of the pupil; and when he could talk, he said this delicate manipulation caused severe pain; he dreaded any attempt to raise the lid, but under the stimulus of the battery he could open the eyes without any difficulty. While under the profound influence of the drug, his features were changed, his expression being idiotic. For about two hours, from eleven P. M. to one A. M., there was a profuse secretion from the schneiderian membrane, the salivary glands and mucous membrane of the mouth; perspiration for the first three hours was at times free, but at no time profuse. The routine of treatment during the night was the battery used as heretofore stated, alternated as circumstances indicated with active palpation, kneading or rubbing over the ribs with the knuckles, ice, carbonate of ammonia, whisky, coffee, and water when desired. In the early part of the treatment attempts were made, by the aid of two assistants, to walk him over the floor; but it was a ludicrous walk; after three or four courses he fell limp and relaxed to the floor; the third time he fell as soon as raised from the bed.

After one o'clock P. M., under the stimulus of the battery, he could be more easily aroused and was able to articulate a few words, but soon relapsed into stupor when the treatment was suspended. Respiration and circulation were only sustained by the battery, the other treatment had no apparent effect on these functions. From three o'clock to six o'clock A. M. the improvement was marked; his features were more natural; he could be aroused by shaking or speaking in a sharp or decisive tone; about daylight the rattling of vehicles over the pavement would startle him. When I left him at six o'clock A. M., 23d, his pulse was 72 to 84, and respiration 18 per minute, temperature 98°; he then took coffee and milk punch. I saw him again at eight o'clock; he had slept most of the time, but was easily wakened, pulse reduced to 48 and respiration 12 per minute; the use of the battery for a short time restored the pulse to 78 and respiration to 16 per minute. He was then able to stand up, and he urinated copiously; his kidneys acted freely every two hours until two o'clock P. M., and during the day had two copious alvine evacuations. Used the battery at ten and twelve o'clock, on finding that the pulse had again declined to 50 and the respiration to 12 per minute; after this it was not necessary to repeat it. During the day he was ordered a milk punch, containing an ounce of whisky, every three hours—which he pronounced palatable—and coffee between times. At four o'clock and ten o'clock P. M. I found him restored to full consciousness.

He felt depressed, and thought a little morphia would make him feel better. The request was not granted. During the night he was restless and awoke frequently. He arose early on the morning of the 24th, took a portion of morphia, ate breakfast, and returned to his desk. On the 25th he said he had experienced no nausea, had a fair appetite, had no special soreness of the muscles, and had slept well during the night. Thus happily terminated this at one time cadaverous looking case.

From my experience in the treatment of poisoning from narcotics, if all the remedies recommended were placed before me and I was obliged to select and rely on one only, I would unhesitatingly choose the battery. I would rely on it with more confidence in a good result than all others combined; premising, however, the use of emetics or stomach-pump in cases seen before the posion had all been absorbed.

Since the patient's recovery he informs me that he had no conception of time; a few minutes seemed as many weeks or months; that, during the hours he was in a stupor and speechless, he was wholly unconscious, except at intervals, when aroused by the battery to partial consciousness, he had a vague conception that something had happened and that something was being done for him.

While in India he saw the natives drink an infusion of the hemp called bangh, which they drank for its stimulating effects. When under its influence they would doze and lie in a dreamy state, interrupted with convulsive starts and wild hallucinations, then relapse into a dreamy stupor, in which condition they were unfit for business. The hashish, as used by them, is a paste made of the active principle of the hemp combined with various aromatics and oils, as butter, honey, cloves, etc.; sometimes stramonium is added. On two or three occasions he used it in sufficient quantity to produce hallucinations. A large element in Hindoo society, he says, use opium in moderate quantity for its stimulating effects, as Americans use tobacco.

LOUISVILLE, KY.

HYDRARTHROSIS OF THE KNEE-JOINT TREATED BY IODINE INJECTIONS.*

BY DOUGLAS MORTON, A.M., M.D.

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Case I. Mr. D., thirty-five years of age, was seen with my late associate, Dr. Cummins. Before he came under the charge of the latter, all, I suppose, of the means commonly used in the treatment of this disease had been intelligently and faithfully but fruitlessly applied over a long space of time. Aspiration had also been done twice, but without material benefit.

Dr. Cummins tapped with a small trocar and cannula and injected iodine on three occasions—I do not remember at what intervals—with a final result of complete cure and perfect use of the joint. During the continuance of the disease this man had suffered much in general health. He had grown thin, and his color suggested malignant disease. On recovery from the local affection he regained excellent health, which he still enjoys. Should it occur to any one that a cure, coming only after iodine injections had thrice been made, does not score very brilliantly for the treatment, he might properly be reminded that when, after a long course of blistering had been endured, and dressings fixed and unfixed had often been put on, and doses innumerable of mercury and of iodide of potash (for he was a syphilitic) had been swallowed, the man had grown worse rather than better, the time had undoubtedly come for a radical change in the treatment.

Case II. Mr. P., a gentleman a little under fifty years old, was sent me by Mr. D. His knee had been giving him trouble for more than a year. He was, as far as I could learn, otherwise healthy, though he had much the same kind of unhealthy appearance as in Case I, and wore habitually an expression of pain. The condition of his knee had moreover compelled him to give up his business, that of an insurance agent. I found the joint swollen from increase of the synovial fluid and tender on pressure. Walking gave considerable pain. He came with his mind made up for the same treatment that had cured his friend. Though his case had not been of long standing, and I felt quite sure that other measures had not been very thoroughly tried, I subjected him to the desired treatment. In his case a few drams of straw-colored fluid were removed by means of medium sized trocar and cannula, and two or three drams of compound tincture of iodine diluted with an equal quantity of water injected. In order to secure thorough application of the iodine over the whole of the inner surface of the diseased sac, I held my finger on the outer end of the cannula while I kneaded the joint thoroughly with my other hand. After this I let the iodine flow out. A back splint was then put on, and the leg bandaged. The pain immediately following the operation was not very severe, but it afterward became sufficiently so to require hypodermic morphia for its relief. After keeping his bed two weeks my patient was able to get up and walk. Slight swelling and some tenderness continued some weeks later, and then gradually subsided, leaving the joint in full exercise of its function.

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*Read before the Medico-Chirurgical Society, May 16, 1884.

Case III. Three years afterward Mr. P. returned with a second attack. He reported that in the interval he had had no trouble with his knee, and had been fully occupied in his business. Two or three months before he had ridden all day in the rain and became very wet. This experience was quickly followed by synovitis in the joint affected before. He did not delay long in coming to have the same treatment repeated. I did as he desired, though now the joint contained less fluid than before, and the other symptoms were less severe. This time, I did not give chloroform, and, at Dr. Cummins's suggestion, injected compound tincture of iodine undiluted. The same application of bandage and back splint was made as before. On this occasion he recovered more rapidly than formerly, and the last time I heard of him, over two years after the operation, his knee was well and normally mobile.

Case IV. Mr. H., a delicate looking gentleman, about thirty-two years old, came under my charge in April, 1883. I was called to treat him for another affection, but his knee was giving him some trouble at the time, which I found afterward to be due to synovitis. This was treated by bandaging and the administration of iodide of potash. By midsummer his health had in all respects become sufficiently improved to enable him to travel. Sometime afterward he was caught in the rain while taking a long walk in Scotland, and remained wet a good part of the day. This was followed by an increase in the pain and swelling in his knee. When he returned, in October, I found him with a distended synovial sac, and suffering considerable pain. The former treatment was resumed, with addition afterward of systematic massage, which proved to be a highly satisfactory remedy. About midwinter these remedies seemed to lose their power of relief, and his joint became much swollen and very painful. I then advised tapping and injection of iodine, which was done in February. A trocar and cannula was used, as in the other cases, the point of puncture being, as in the other cases, about an inch upward and outward from the patella. About six ounces of brownish, somewhat turbid fluid was withdrawn, and a half ounce of compound tincture of iodine diluted with an equal quantity of water and containing half a grain of bichloride of mercury was injected. A portion of this was allowed to remain in the sac. The same dressing was applied as before. In two weeks the patient was up and able to resume his business. As in the other cases, no inflammation followed the injection. I saw the gentleman a few days ago, and found that he occasionally suffers some pain about the joint and that there is apparently slightly more synovial fluid than normal. The circumference of the knee, however, is on measurement only a quarter of an inch more than that of the sound one. The muscles of the leg, which had undergone great atrophy during the progress of the disease, are now fairly developed. There is very slight if any impairment of mobility. The patient feels, however, that the cure is not complete and urges a repetition of the operation, and is unwilling that any other treatment be tried in its place.

These cases are all, I believe, that have ever been treated in this city by iodine injection.* Their results correspond very closely with those of all the few cases that have been reported. Though a number of distinguished authorities consider the operation dangerous, as will be seen further on, none base this belief upon any experience of their own, or upon their personal knowledge of disastrous results in the practice of others.

I have taken pains to examine quite extensively the literature of the subject, and give below the views of a number of surgical authorities:

"I have not been so bold as to use injections for the permanent cure of this affection, convinced that the practice must be fraught with danger." (Gross.) "Tapping, iodine injections, etc., notwithstanding considerable testimony in their favor, are remedies of doubtful propriety." (Hamilton.) "This mode of treatment has been used with great success by several European surgeons; as, however, the plan is necessarily attended by some risk, it should not be employed except in very chronic cases which have resisted other modes of treatment. . . Even the simple use of the aspirator in these cases is attended with some danger, as shown by fatal results which have occurred in the hands of Dubruil, and of McDonnel, of Dublin." (Ashhurst.) "In very chronic and obstinate cases paracentesis of the joint by means of the aspirator has been employed with marvelous success. Sir J. Fayrer was one of the strongest advocates." (Bryant.) "But when these (the usual remedies) have failed . . . the joint must be injected with iodine. Care must be taken to exclude air . . . The case may be converted into one of acute abscess. But generally it does well, and the patient recovers with more or less stiffening." (Holmes.) "The results of this operation (injecting iodine) may be divided into four classes: (1) Complete cure with preservation of mobility; (2) Cure with certain amount of stiffness; (3) Complete failure; (4) Suppuration and injury to joint. The first and fourth classes are uncommon. The operation should not be done except after trial and failure of other remedies." (Panas, quoted in Holmes' Surgery.) "Dangerous both to life and limb, and can very rarely be justifiable." (Keetly.) "If these means fail, and the absence of false bodies and osteophytes has been verified, the joint may be injected with iodine." (Barwell.) "If these means fail, we have a very powerful method of cure at our command in the injection of the joint with tincture of iodine. This plan, a sufficiently bold one, has been much employed by Jobert, Velpeau, and Bonnet. . . . According to the statement of the French surgeons, it has in no case been followed by any serious consequences, but in several instances by a complete cure without ankylosis. . . . In one case of hydrarthrosis of the knee in an old man, in which I employed it, about six ounces of thin synovia were drawn off and a dram of strong tincture of iodine was injected. Slight inflammation ensued, and the disease, which was of two years' standing, was completely cured. The chief points that appear to require attention are that no inflammation be going on at the time, there being no tenderness or pain in moving the joint, the effusion being quite passive and of a very chronic character, and above all that no air be allowed to enter with the injected fluid." (Erichsen.) "Iodine injections in hydrarthrus are made by few surgeons. I have seen them made three times and have made two, always with good results. . . . Cases have also occurred where severe inflammations of the joint have resulted after these iodine injections, which have been most used in France because they are a French invention (of Bonnet and Velpeau); as so often happens in traumatic articular inflammations, the acute serous synovitis often becomes purulent. . . . It is always dangerous to joint and to life, and hence should be done as rarely as possible." (Billroth.)

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*I have since learned that the operation has been done by Dr. Stucky, of this city. In his case the disease was caused by an injury to the joint. Five weeks afterward a large quantity of fluid was withdrawn by aspiration, and three drams of iodine to the ounce of water injected. He recovered promptly with full use of the joint.

Ten years ago, Dieulafoy had aspirated the knee-joint two hundred times without a bad result. He considers it an eminently safe and satisfactory measure.

A few cases of iodine injection have been reported by other surgeons, who have expressed themselves very favorably as to the safety and efficiency of the operation, and no one that has tried it himself, as far as I have been able to learn, except the illustrious surgeon of Vienna, has regarded it otherwise. It may be observed, however, that Billroth, who has emphasized the danger of the operation, mentions that it had been "most used in France," while Erichsen distinctly states that the French surgeons assert it has in no case been followed by any serious consequences.

After a careful review of the statements of the various surgical authorities at my access, I am forced to suspect that the prejudice against the operation prevailing in the minds of most of them, consists of the too lingering remains of a belief long dominant in the professional mind, that the joints, and particularly the knee-joint, could not be surgically interfered with except at great risk. Now that we have learned, especially from McEwen and Ogsten, how very tolerant are the joints of the knife and the saw; and since we hold it to be so light a matter to throw iodine into the tunica vaginalis, it does appear anomalous that any one, on any supposed general principles, should consider it highly dangerous to inject iodine into the synovial sac of the knee-joint. Stress has been put upon the danger of admitting air. I can understand how importance should be attached to such an accident before the days of antiseptic surgery. But now I can not, and in my own operations air was admitted freely—so much so, that when the injected iodine was forced out by pressure a multitude of air-bubbles would come with it. I took pains to bring the iodine in contact with as much of the membrane as had been touched by air, and by this, I believe, its admission was rendered perfectly harmless, and therefore made no special effort to prevent it. Without the use of iodine or some other powerful disinfectant, I should regard admission of air into the joint dangerous, and believe it very probable that the fatality occurring in the practice of McDonnel and Dubruil, mentioned by Ashhurst, was due to this cause.

It was said, I think, by Volkmann, in his address on antiseptic surgery before the International Congress in London, that results in surgery were no longer involved in the uncertainty of former times. Then the work of the surgeon was like that of the agriculturist, dependent in its issue upon conditions which he could neither anticipate nor control; but that, now, it is rather like that of the skilled mechanic, the conditions of whose work are largely subject to his control and from whom we may confidently *expect* results. I do not know that this is true to the full extent of the analogy, but this is certain, that the striking statement places surgery downrightly upon the basis of the inductive method, upon which alone substantial progress is possible.

In making a practical application of this method of reasoning to the question before us, I think we may safely conclude that two points are definitely and finally settled: first, air may be freely admitted into a synovial sac and no harm result; and, second, undiluted officinal compound tincture of iodine may be safely injected. Any doubt as to these particular points may be regarded as forever eliminated from the question, which is now narrowed down to conditions belonging to the patient's state of health and to his surroundings. Diseased kidneys or bad hygienic conditions rendering the result of any surgical operation doubtful may lead to disaster here. But these conditions may be ascertained by reasonably careful investigation; and, after failing to find any unfavorable condition, we may operate with the *expectation* of a good result.

Since writing the above, Mr. H., whose case was mentioned last, has had me to repeat the operation. By a circumstance that I considered unfortunate at the time, the synovial sac on this occasion was subjected to a peculiarly severe test. I used an aspirator, and, after removing about an ounce of fluid, injected three drams of compound tincture of iodine to which one dram of water had been added. This I tried to withdraw through the needle after a few minutes, but, for some cause I could not make out, was unable to do so. Fearing to let it remain, I got the trocar and cannula I had used before from home, which caused a delay of fifteen minutes, penetrated the sac with this, and removed the iodine. The pain following this operation was very intense, and five quarter-grain doses of morphine had to be given at short intervals before comparative relief was obtained. In spite of this very severe treatment, since the eighth or tenth hour after the operation, the patient has suffered very little, and is now, on the seventh day, entirely comfortable and his knee very little swollen or tender. As in the other cases, air found its way freely into the sac. I was about to forget to state that there was slight fever (101.5° maximum) for two days.

LOUISVILLE, KY.

FREE INCISION IN EMPYEMA.

BY N. J. OUTTEN, M. D.

Charles Overby, of Hickman, Ky., aged seventeen, had been sick a month when I first saw him professionally on December 20, 1883. His case had been pronounced pneumonia by the physician who treated him. His symptoms were, emaciation, sweating, pulsations, about one hundred per minute, temperature a little above normal, a troublesome cough which brought up a slightly greenish sputa resembling the expectoration of bronchitis, flatness upon percussing over left lung, in which no respiration could be heard, respiration in right lung bronchial, heart heard and felt pulsate far over to right side. My diagnosis was at once empyema.

Having some time since become convinced that free incision with free and unintermitting drainage was the treatment which had given by far the best recorded results, I concluded to put it in practice as soon as conditions became favorable. I considered them such by January 22d the following, when I operated by making an incision in the sixth intercostal space, about midway between the spine and sternum, two and a half inches in length on the outside and about one and a half in the pleura, patient being under the influence of chloroform, which acted well. Fifty-six ounces of a slightly greenish-yellow puruloid fluid escaped. The wound remained open without any assistance sufficiently to allow the escape of the fluid for about two weeks, when the discharge nearly ceased from closure. A drainage-tube was then introduced, made of a piece of No. 10 silver catheter, held in place by adhesive plaster. It answered the purpose well. The discharge continued, the quantity gradually diminishing up to April 8th, two and a half months, by which time it had almost ceased. The tube was then taken out and the opening allowed to close.

No antiseptic precautions, *so-called*, were resorted to. The skin, however, was well cleansed with soap and water over the site of intended operation and cleanliness strictly observed afterward. No syringing out the cavity was resorted to; no smell whatever was observed at any time in the recent discharge. No untoward symptoms followed the operation, beyond a little rise of temperature and a corresponding acceleration of pulse which were of short duration. His appetite soon became good, and he steadily improved in flesh and strength up to the present. He called at my office a few days ago, when I found his weight to be within one and a half pounds of what it was a few weeks before his sickness, and when he considered himself in perfect health.

In 1865 I operated on W. C. Metcalfe, a druggist of Caseyville, Ky. I regret that I have no notes of his case; but remember that I operated and treated him upon the plan of that day, let the fluid discharge and then suffered the wound to close until the re-accumulation made it necessary to open again. My patient died within a year, seemingly worn out by hectic and the continuous drain upon his system. I am satisfied that his condition was as favorable as Overby's, and that if he had been treated upon the same plan would likely have recovered.

HICKMAN, KY.

Reviews.

Hand-book of Geographical and Historical Pathology. By Dr. August Hirsch, Professor of Medicine in the University of Berlin. Vol. 1. Acute Infective Diseases. Translated from the Second German edition by Charles Chreighton, M. D. London: The New Sydenham Society. 1883.

More than thirty years ago Dr. Hirsch broke ground in the then new field of medical geography. Since his first publication much knowledge has accrued by the labors of French, English, and American physicians, concerning parts of the world remote from the civilized states of Europe.

The material has grown to a prodigious heap, enough to strike despair to any editor less patient and enthusiastic than Dr. Hirsch. His plan involved a new treatment of the subject, especially an enlargement on the sides of comparative pathology and etiology. In carrying it out he has made available for every reader a lot of interesting matter buried hitherto in statistical reports and transactions of societies of all nations.

It may not be generally known that the first published work on the historical side in our language was the " Brief History of Epidemic and Pestilential Diseases," written by Noah Webster, of spelling-book and dictionary fame. Our author acknowledges some debt to Webster in compiling the present volume. It is the debt that growing communities owe to the pioneers that clear the ground for future occupancy. The aim had in view by Dr. Hirsch is " to exhibit the particular circumstances under which diseases have occurred within the several periods of time and at various parts of the globe; to show whether they have been subject to any differences, and of what kind, according to the time and place; what casual relations exist between the factors of disease acting at particular times and in particular places, on the one hand, and the character of the diseases that have actually occurred on the other; and finally to show how those diseases are related to one another in their prevalence through time and through space—a task, the high importance of which for the doctrine of special diseases, for etiology and hygiene, can not well be misunderstood or called in question."

A task so huge, it may be added, no one but a German professor would undertake, and few but Dr. Hirsch could accomplish as he has done it in the book before us. At first glance it has the look of a bibliographical and geographical index; but a closer view shows that behind the mists of detailed facts great mountain ranges of truths can be discerned. These principles run through each chapter, like a red string, holding the compilations together. They are cautiously stated and enforce conclusions of judicial fairness; conclusions which must have weight in determining the causes and external relations of the acute infective diseases.

It is a valuable book of reference to every medical scholar who does not seek to confirm his mental vision to the narrowest limits. J. W. H.

Insanity: Its Classification, Diagnosis, and Treatment. A manual for Students and Practitioners of Medicine. By E. C. SPITZKA, M. D., Professor of Medical Jurisprudence at the New York Post-Graduate School. 1 vol., 8vo, pp. 415. New York: Bermingham & Co. 1883.

Just as "great oaks from little acorns grow," so this work, from the modest dimensions of an essay, has expanded into its present proportions. The requests and suggestions of pupils and professional friends appear to have furnished the intuitive force requisite to effect this transformation.

The book is divided into three parts. The first considers the general Character and Classification of Insanity. The Special Forms of Insanity are treated of in the second part, and the third part is devoted to Insanity in its Practical Relations.

The author's aim seems to have been to produce a treatise which, without being so exhaustive as to tire and bewilder the beginner and the general medical reader, shall direct attention to some of the salient points of psychiatry, etc. The conclusion follows from this that the rather numerous works on this subject have neglected some *points* in psychiatry of sufficient importance to require elucidation, and these the author has attempted to supply.

The work, in spite of glaring and multitudinous grammatical errors, is of real value, especially where the author's own observations are related.

The Field of Disease. A Book of Preventive Medicine. By Benjamin Ward Richardson, M. D., LL. D., F. R. S. Fellow of the Royal College of Physicians and Honorary Physician to the Royal Literary Fund. 1 vol., 8vo, pp. 737. Philadelphia: Henry C. Lea's Son & Co. 1884.

The object of this bulky volume appears to have been to furnish "those members of the intelligent reading public who, without desiring to trench upon the province of the physician and surgeon or to dabble in the science and art of medical treatment of disease, wish to know the leading facts about the "diseases of the human family, their causes and prevention." There are doubtless many who will deny that this is a desirable object, and these will declare that those for whom it is intended are not likely to benefit by it, and that those who have the knowledge to appreciate the book are the very persons who do not need it. The American publishers' preface contains the remark that "they have had no hesitation in laying the book before the profession, being advised that it contains much with which every physician should be familiar." May it not also be said that the contents are such as every well-informed and competent physician *is* familiar with?

However, the fame of Dr. Richardson as a writer and medical philosopher is so great that every thing he deems worthy of laying before the great medical public is certain to be read with interest and judged with fairness and in a kindly spirit. It is therefore idle to consider the object for which the book was written. Rather let the pages be scanned to note how the work has been performed.

The plan of it embraces, as indicated by the title, the whole field of disease. It is vast in its scope, yet the arrangement is so admirable and the author handles his numerous and varied subjects with such power and skill that he gets over the ground unceasing and unhasting, commanding in an unusual degree the attention and interest of the reader. His style is simple, always clear, often vigorous. He never descends to the use of needless technicalities, never makes rash and extravagant statements, and as a rule keeps his reader out of those entangled and entangling situations where only a clear-headed and well-informed physician may safely tread and where the uninstructed or half-instructed layman necessarily falls into inextricable confusion. The province of therapeutics is touched upon only in its preventive relations, and the book is really just what it claims to be, and yet something much better. It will be read and appreciated by physicians wherever the English language is spoken, and can not but add new luster to Dr. Richardson's already brilliant reputation as a teacher, author, and philosopher.

Elements of Pharmacy, Materia Medica, and Therapeutics.

By Wm. Whitla, M. D. (Q. U. I.), Physician to the Belfast Royal Hospital, Consulting Physician to the Ulster Hospital for the Diseases of Women and Children, etc. Second edition. 1 volume, pp. 602. London: Henry Renshaw, 356 Strand. 1884.

This work, the second edition of which has recently appeared—its contents are arranged in six parts, viz: Part I treats of Extemporaneous Pharmacy; Part II, Materia Medica; Part III, The Therapeutical Action of Drugs; Part IV, New

Remedies; Part V, The Method by which Medicines are Introduced into the System; Part VI, Pharmacopeial Reaction of Tests, and Tables of Weights and Measures. The author has given a very handy volume, replete with practical and useful information; and having once made its acquaintance, one is ever afterward desirous of keeping it within easy reach for frequent reference and consultation. It can not be compared with the more ponderous and pretentious works, such as those of Stillé, Wood, and Bartholow, for it is entirely different in scope; while unlikely to supplant either of these it wiil fill a place of its own, and will doubtless find, as it deserves, a very large circulation.

Hooper's Physician's Vade Mecum. A Manual of the Principles and Practice of Physic, with an outline of General Pathology, Therapeutics and Hygiene. Tenth edition. Revised by WM. AUGUSTUS GUY, M. B., Cantab., F. R. S., Fellow of the Royal College of Physicians, late Professor of Forensic Medicine and Hygiene, King's College. London, Consulting Physician to King's College Hospital, etc., and JOHN HARLEY, M. D., London, F. R. S., Fellow of the Royal College of Physicians, Hon. Fellow of King's College, and late Physician to the London Fever Hospital, Lecturer on General Anatomy and Physiology etc., and Physician to St. Thomas's Hospital. Vol. 1., 8vo. New York: Wm. Wood & Co. 1884.

This work was first published in 1823, but has since been many times rewritten to adapt it to the changes and improvements which have occurred in medicine during the last sixty-one years. The book is thus practically a new one, for necessarily very little of its original contents remain in the present edition.

The wisdom of the publishers in dishing out such rather stale literature to the profession is quite doubtful. Those who subscribe to the series of "Standard Authors" would generally and naturally expect original and recent works. Still the book has held its ground for a long time, and certainly is not without practical value.

A Manual of Medical Jurisprudence, with Special Reference to Diseases and Injuries of the Nervous System. By ALLAN McLANE HAMILTON. 1 vol., 8vo, pp. 386.

This thoroughly practical volume is a timely and useful contribution to the literature of the department of science with which it deals. The preface is a model for brevity and modesty, and gives but an inadequate idea of the excellence of the work. Even the index conveys a very poor conception of the useful material the author has compressed within the narrow limits of of the text. Only those conditions are considered which in these present times often form the basis of litigation. The book is intended as a guide to physicians and lawyers. The contents are arranged in eight chapters, as follows: Chapter I, Insanity; II, Insanity in its Medico-legal Relations; III, Hysteroid Conditions and Feign Diseases; IV, Epilepsy; V, Alcoholism; VI, Suicide; VII, Cranial Injuries; VIII, Spinal Injuries.

The author treats of the medico-legal relations of mental diseases and injuries to the nervous centers in a clear and practical way which shows that he is master of his subject and that he appreciates the sort of book that is needed, while the manner in which he has acquitted himself amply demonstrates his admirable qualifications for the performance of his task.

Insanity Considered in its Medico-legal Relations. By T. R. BUCKHAM, A. M., M. D. 1 vol., 8 vo, pp. 265. Philadelphia: J. B. Lippincott & Co. 1884.

This book is evidently written for a purpose beyond merely gratifying a taste for literary labor and fondness for the notoriety of authorship. This purpose is apparent throughout. The author desires to point out, first the uncertainty of verdicts in trials for insanity, second the causes of this deplorable state of things, and lastly the means of removing this difficulty. This he hopes to accomplish by the aid of the *physical-media* theory. Whatever objections may be urged against it, the author deserves credit for the honesty, fearlessness, and spirit with which he has discussed it. Much interesting information has been embodied in the work, and it can not fail to prove desirable to the literature of psychological medicine.

Elements of Human Physiology. By HENRY POWERS, M. B., London. Illustrated with forty-seven engravings, pp. 389. Philadelphia: Henry C. Lea's Son & Co. 1884.

This little volume contains a brief and clear exposition of the subject of which it treats. It is one of a series which has already been noticed in these pages, and it maintains the character for excellence which has marked its predecessors. No great amount of original matter can be found in its pages, but its small bulk and lucid style, and also the fact that it deals with physiology pure and simple, give it a sufficiently marked individuality. While it possesses merits which must secure for it a handsome circulation, it can never take the place of such master works as Dalton and Flint.

A Year-book of Therapeutics for 1883. Edited by ROYAL W. AMIDON, M. D. 1 vol., 8vo, pp. 250. New York: G. P. Putnam's Sons. 1884.

The editor has compiled a very good and useful collection of therapeutic novelties of the past year. They appear to have been in the main gleaned from American and British journals containing abstracts and notices of articles previously published in continental European publications. Very little notice is taken of any thing American; nevertheless, the book is a useful one, is well printed on good paper, and it is a quite seemly volume.

Clinic of the Month.

A Case of Myocarditis and Myomalacia Cordis.*—The patient, a male, aged sixty-seven. During the last two years of his life he had several times sought medical advice for light catarrh of lungs and bowels, but he never complained to his physician of any symptoms indicating the existence of heart disease. It appears, however, that he had been aware for some time of disturbed heart's action, and that he had been advised by a former physician to make use of gymnastics. He had several times during the last few weeks complained to his family of sudden vertigo, which lasted only momentarily, but otherwise he appeared well until the night of the 25th of December, 1883, when he was awakened from his sleep by a sense of great oppression in the chest.

When the physician visited him the following day, this feeling still continued, though less severe than during the night. On physical exploration nothing abnormal could be found about the lungs. The heart's impulse could not be detected; the area of cardiac dullness was not increased; the heart sounds were not clear but feeble and there were no murmurs; the heart's action was not rapid, but weak and somewhat irregular. He soon felt considerably improved, so that he could sit up in his apartments, and occupied himself a good deal of the day in writing and drawing, though his strength did not return. This period of improvement lasted eight days, when another paroxysm occurred, considerably more severe than the first. An unendurable sensation of compression and suffocation extended round the thorax immediately above the nipples. It seemed to him impossible to lie down, but on attempting to rise he nearly lost consciousness and fell back upon the bed. The heart's action and the pulse became extremely feeble and irregular, the extremities cold, but in spite of this unpromising state of things the patient rallied again, and the next day he was comparatively free from pain, the action of the heart improving somewhat, but remaining irregular. Both the patient and the family were informed of the great risk incurred by him if he deviated from the horizontal position, but in spite of this he disregarded the advice. After having passed a tranquil night he felt strong, sat up in bed and signed his name to a number of papers and continued this occupation about fifteen minutes. He experienced nothing unusual during this time, but was merry and spoke playfully; but a little while after he had lain down it was noticed that his breathing was irregular and rattling, and in a few minutes he was dead.

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*Translated by John A. Octerlony, A. M., M. D., Professor, etc.

At the autopsy the pericardium was found to contain a somewhat larger quantity than normal of a clear transparent fluid. The heart was covered with fat; there was interstitial myocarditis, and on opening it no thrombus or embolus was found in pulmonary artery; but in the right auricle were recent thrombi, originating ante-mortem, whose center had not yet reached any degree of disintegration, and similar ones existed in the right ventricle, especially toward the apex. The muscular structure of the right side of the heart had a diffuse grayish-yellow tint; endocardium healthy. The walls of the left ventricle exhibited highly marked alterations. The general thickness was not specially augmented; it measured at the base fourteen mm., midway between the base and the apex, thirteen mm., and at the apex ten mm.

The walls presented a very different appearance at various points, their structure was in general much more friable than normal and of a uniform, grayish-yellow appearance indicative of diffuse fatty degeneration. In various places, especially at the insertion of the musculi-papillares, and also in the musculi-papillares, were large spaces of white, shining, tendonous appearance, which at several places surrounded the whole ventricular wall. In several different places were foci of another and altogether different appearance. The largest of these was found about midway between the apex and base on the posterior wall and occupied a surface of about two cubic cm. At this point the heart structure was of greatly softened consistence; indeed it was as much so as occurs in advanced fatty degeneration of the liver. Section exhibited an irregular surface with small prominences of varying form, some being round, others oblong, etc. Between the prominences, whose color was grayish-yellow and opaque as the general structures of the heart, were depressions of a reddish-gray, semi-transparent, gilt-like color. There was no bleeding any where in these places. Similar places of exceedingly soft consistence, but much smaller in extent, were found dispersed in the vicinity of the larger foci.

The endocardium over the mitral valve was slightly thickened, and the aortic valves were also here and there somewhat thickened.

The principal tissue changes occurred in the papillary muscles, and especially over parts in the muscular structure which had undergone connective tissue transformation. Here the endocardium was greatly thickened, white and firm and strongly adherent to the subjacent altered muscular tissue. The intima exhibited a slight degree of atheromatous degeneration. The left side was entirely free from thrombi.

On slitting the coronary arteries these were found in a state of atheromatous degeneration; though not in a high degree in the left. In the right, however, there was a mass of coagulated blood which occluded the orifice and projected from two to three mm. into the lumen of aorta. It was rounded, of yellowish-white color, of quite firm consistence and firmly attached to the vascular wall. On slitting this artery it was found greatly altered; it contained a thrombus extending ten cm. from the orifice and quite adherent to the wall. This mass consisted of reddish-gray, toward the center almost red, clot. The artery was greatly dilated beyond first eight cm. of its course so that its diameter measured six mm. The walls over an extent of four to six cm. from the origin of the artery were in a high degree atheromatous, covered with bony plates, thickened, and its inner surface uneven and rough every where. The thrombus extended some distance beyond that part of the artery which was so much altered, and it was only after the vessel had reached the posterior aspect of the heart that its lumen was free.

In its course down to the foci already described the artery was the seat of only slight atheromatous changes. The autopsy presented no other appearances worthy of note. The lungs and kidneys were healthy. Microscopical examination revealed that the muscular structure in places, described as grayish-white with a shade of yellow, were in a high degree of fatty degeneration; the place noted as white and of tendonous appearance was found a firm fibrous mass of connective tissue. Section of the foci of softening, already mentioned, showed islets of muscular tissue in a state of fatty degeneration and disintegration, surrounded by loose connective tissue, with here and there nuclei and lymphoid corpuscles and fat granules. Most of these were small, but many presented the same diameter as those in the muscular fiber of the heart. The connection of these pathological changes above described is somewhat difficult to trace. Some of them, in relation with marked thickening of the endocardium, must be regarded as the result of an endocarditis extending into deeper structures. The foci of softening may, perhaps, without hesitancy be ascribed to the marked degeneration of the wall of the right coronary artery, their location certainly speaks in favor of this view. The microscopical investigation showed that they resulted from fatty degeneration with disintegration of muscular fibers and partial resorption of the fatty degenerated mass; and this pathological process coincides, according to experience, most frequently with atheromatous degeneration of the coronary artery; its favorite seat also is on the posterior wall of the left ventricle. It is plain that the final cause of death, the obstructing thrombus, arose in part from the condition of the coronary artery and in part from the greatly enfeebled action of the heart; and it is easily perceived that under such circumstances quite slight impediments to the heart's action and disturbances of the circulation might determine its formation. (Drs. Ekecrantz and Wallin, Hygiea, March and April, 1884.)

HOW TO SHRINK HYPERTROPHIED TONSILS BY CAUSTIC APPLICATIONS.—Prof. Chisolm, of the University of Maryland, begins a paper on the above subject by saying: I unhesitatingly prefer excision of the enlarged gland in every case in which the patient will permit the use of the knife. It is by far the quickest, surest, and best means of securing permanent and complete relief.

In my personal experience of tonsil-cutting (and I have taken off a great many), I have never seen any trouble from hemorrhage. In fact, I have never seen any bleeding which gave me any anxiety whatever. Cases have been reported in which very alarming hemorrhage had taken place, but this must ever be a rare accident at the hands of a skillful and cautious operator, who restricts the application of the tonsillitome to simple hypertrophies of the tonsil, and is careful how he cuts the more complex or malignant changes in the gland.

But suppose that a patient positively refuses to permit any cutting instrument to be used, what are we then to do? Such cases occur very frequently in the experience of every physician. Timid parents will not accept for their suffering children the quick, certain, and permanent relief which excision offers. At the same time they will request that treatment be instituted to relieve their children from the exposure to suffocative attacks and constant annoyances in breathing, eating, and speaking, to which these little sufferers are forced to submit. Large lumps in the throat, at all times a discomfort, swelling up under irritation till they touch at the uvula and threaten to cut off communication with the chest and abdomen, must be a serious disturbing influence in sustaining health. Undeveloped bodies with pallid faces must be the result of this diseased state of the throat, nor is this condition of short duration. Chronic hypertrophy of the tonsil may show itself at a very early age of childhood, and usually continues up to and even after puberty.

Without judicious treatment this diseased condition of the throat will continue at least during the growing period of the individual, and may possibly entail upon such patients defective hearing in addition to other annoyances. Nature, unaided, will do but little to bring about the desired relief of causing absorption of these hypertrophied glands. A general medical treatment may do much to sustain a comparatively healthy state. Proper hygiene, fresh air, warm clothing, protection from exposure, nutritious food, with general attention to the digestive apparatus, when aided by the internal administration of cod-liver oil and iron, will do much toward improving the throat. When such treatment is instituted early enough, it will fortunately often prove successful.

I have seen no benefit from the administration of so-called absorbents, or remedies which, when taken into the circulation, are supposed to act more immediately upon the glandular system, viz., iodide of potash, iodide of ammonium, muriate of ammonia, guaiacum, etc. These, on the contrary, when given for a length of time often disturb the digestion, and are so extremely uncertain in their shrinking action as to be of very questionable utility in removing tonsillar hypertrophies.

Nearly as much can be said of the negative results of astringents locally applied to the surface of hypertrophied tonsils to cause absorption. Such as painting the inner surface of the throat with iodine preparations, tincture of iron, glycerole of tannin, solutions of nitrate of silver, or the frequent gargling with solutions of alum, tannin, borax, muriate of ammonia, chlorate of potash, etc. However valuable such local applications may have proved themselves in many throat affections, they are little more than placebos when used for shrinking hypertrophies of the tonsil. We have all seen cases in which some of these remedies have been assiduously applied for months with no material benefit in the permanent reduction of the throat lumps. These continue to annoy as if no local treatment had been instituted.

The local application of destructive agents alone promises no satisfactory reduction. These are usually applied to the surface of the tonsil. They are often violent in their action, difficult to limit to the tonsil proper, and by excoriating the mucous surface to which they come in contact usually make a very painful sore throat for the patient. These destructive applications require frequent repetition, at intervals of one or two weeks, until the enlarged gland is eaten away, as it were, by piece-meal. It is not surprising that patients suffering with hypertrophied tonsils, especially the young children, who are in such a large majority, shrink from this painful ordeal.

When the knife is not used, we must look to these caustics to effect the removal of enlarged tonsils; but there seems to me a much better method of applying these than to the exposed surface of the throat, where the good they accomplish is accompanied by so much positive discomfort. If we will utilize our knowledge of the anatomy of the tonsil, much light can be thrown upon this important subject, and a comparatively painless solution of these stubborn throat lumps can be obtained.

In the distribution of sensitive nerves, the exposed surfaces receive the larger supply according to rule, and the interior surfaces of the follicles are to a certain extent deficient in common sensation. Here, then, we have in these deep pits of the tonsils a much more extended, less sensitive, and more easily influenced surface, to which destructive agents can be readily applied without annoying the throat proper. Caustics, if buried in the substance of the tonsil, will soon give evidence of the much desired shrinkage.

Among the various caustics for local use in causing shrinkage of tonsillar hypertrophies, I have found the chloride of zinc the most available and the least annoying to the patient. I employ it in the following manner: A wire, the size of a fine knitting needle, is roughened for a half inch from one end, so that it may hold a fiber of absorbent cotton twisted upon it. Dip this into a saturated solution of chloride of zinc, and thrust it to the very bottom of the crypt, and keep it there several seconds. When withdrawn the whitened orifice marks the cauterization. By renewing the cotton for each follicle, several may be thoroughly cauterized at the same sitting, without causing any annoying irritation to the throat. A very few applications will cause the gland to shrink, as will be seen one week after the destructive cauterization has been made to the interior of the follicles. (Virginia Medical Monthly.)

INSANITY IN A CHILD.—Berner reports the case of a child six years and ten months old, who was attacked with melancholia. The patient was desirous of solitude, very restless and unquiet in slumber, and had hallucinations of sight and hearing. There were at times paroxysms of markedly painful depression. Hereditary history was uncertain, and the patient recovered in a month.

EXTENSIVE TREPHINING OF THE SKULL.—Dr. Nancrede, of Philadelphia, recently offered at the Pathological Society of Philadelphia, specimens from a case of skull injury of more than ordinary interest. (Cincinnati Lancet and Clinic.) The specimens, consisting of nearly the whole right squamous plate of the temporal bone, the inferior angle of the parietal, and a portion of the frontal—in other words, the anterior two thirds of the temporal fossa, from the orbital plate nearly to the temporal ridge, and from the external angular process of the frontal to a line posterior to the external auditory meatus—were removed by the speaker from a man who had been struck by an iron lever which caught his head between it and a large beam. Though the depressed area must have been fully an inch deep, yet he walked into the surgical dispensary of the Episcopal Hospital presenting apparently neither motor nor sensory disturbances, pupils and tongue normal. He was at once sent up to the male surgical ward and the speaker proceeded to trephine him, cut away the overhanging shelf of sound bone with the "rougeur," and thus elevate and remove over a dozen fragments of bone. The dura mater seemed uninjured. As the specimens show, the middle meningeal artery must have been torn, and fortunately twisted in removing the fragments, as it was completely surrounded by a bony canal. One branch of the meninges was tied with fine catgut ligature and the wound, as well as a deep-scalp cut on the opposite side, was dressed with mercurial bichloride. He has done well since.

TREPHINING FOR EPILEPSY WITH DELUSIONS.—Frank Warner, M. D., of Columbus, Ohio, reports the following case in the Cincinnati Lancet and Clinic: Four years before his application for treatment for epilepsy John W. had fallen from a scaffold, and, as he struck below, the occipital bone was penetrated by a nail which was protruding through a board. A short time afterward he became affected with epilepsy, pain in the head over the seat of the fracture, which was just to left of the mesial line, in the occipital bone and an inch below the articulation of this bone with the parietal, and after a while developed peculiar nervous symptoms, becoming irritable, easily excited, and manifested occasional delusions. At first symptoms were mild, the epileptic attacks occurring once a month, and then, perhaps, one slight convulsion ending the manifestation of the disorder. In the first two years little change was manifested, but gradually the epileptic seizures became more frequent, and instead of one or two convulsions ending the attack, three to six would follow in quick succession.

Occasional delusions took possession of the patient and he imagined persons designing evil things against him, frequently prepared to protect himself by carrying dangerous implements.

Trephining was done over the point where the nail had entered the skull, and three buttons removed, the reason for taking out more than one being that fragments from the inner table could be felt, which we thought proper to remove.

Pressure on the brain from the depressed bone was very slight, but the ragged edges were sufficient to keep up a continuous local meningeal inflammation.

The patient made a rapid recovery, and for two or three weeks none of the old symptoms presented themselves, then a number of convulsions followed, with the characteristic delusions. These, however, soon passed away, and he made a rapid, complete, and permanent cure, four years having now passed since the operation, and the patient continues in perfect mental and physical health.

Moral Insanity in Children.—Dr. J. Manley (Journal of Mental Science), coinciding in the opinion previously expressed by Dr. Savage, that many so-called sound children are nothing more or less than children who are morally of unsound mind, reports the cases of two children, four and six and a half years old, intellectually bright, yet given to wild, malicious mischief, despite good home surroundings and careful bringing up.

[Quite recently I was consulted regarding a case of acquired mental derangement, occurring in a boy nearly ten years of age, which was believed to be due to fright consequent on accidental immersion. For the past eight months the boy has been progressively losing mental power, and lately he has become excitable, extremely passionate, and filthy in his habits—using, when aroused, foul language which he heard as a child; he is quite incoherent, and the volitional and emotional faculties are deeply affected. The prognosis in such a case is, I believe, very unfavorable.—*Reporter.*]

Mental Disease in Children.—Dr. Martin Cohn, in a paper in the *Berlin Archiv f. Kinderheilk*, says that the statistics of Hagen and Koch have shown that mental diseases are more common among children than was formerly supposed. An explanation of this may be found in the fact that only lately the diseases of childhood have been more thoroughly studied, and also that among children lighter psychical disturbances which heretofore have not attracted the attention of statisticians are quite frequent. The disposition to mental disease, it is true, is small among children, yet at no other time of life is the equilibrium of the mind more easily disturbed by trivial causes. In the etiology we must distinguish between the predisposing and the accidental causes. Among the former the chief cause is hereditary tendency; while among the latter we may name fright, fear, education, somatic causes—such as deformity of the brain case, injuries to the head, acute febrile diseases, chronic constitutional diseases, such as tuberculosis, syphilis, etc., reflex irritation, and many others.

Relation of Diseases of Women to Insanity.—Dr. Ripping considers the important clinical question of the relation of the diseases of the sexual organs in women to mental alienation. While he admits that changes in the uterus and its appendages, whether physiological or pathological, have an effect upon the mental susceptibilities of women, he is doubtful whether this effect is profound enough to become potent cause of insanity. He is rather disposed to place such affections in the second or third line of causes as adjuvantia. The uterine diseases and the mental disturbance are sometimes the result of a common cause. "I have never observed," writes Dr. Ripping, "a single case in which the insanity was a pure reflex neurosis of disease of the genital organs." If in some patients this seemed to be probable, it was found on more careful examination that there were other circumstances which gave an easy and enforced explanation of the mental derangement. It is only after uterine disorders which, from their severity, implicate the whole organism or lower the strength, as in continual bleedings, that insanity can be held to supervene as a result. Dr. Ripping finds that affections of the sexual organs after the puerperal condition is passed do not hinder recovery from insanity. He protests against the remark of Skene that the insane are less affected than the sane by vaginal examinations. On the contrary, he says that in recent cases of insanity such examinations sometimes cause injury to the course of the mental symptoms which are well-nigh irreparable. He has a dislike to examinations under anesthetics, and observes that the effects of chloroform on the nervous system are somewhat suspicious in patients afflicted with recent insanity. There is a great variance of opinion about the frequency of diseases of the genital organs in insane women. Verga places it as low as 6 per cent, L. Meyer 9 per cent, Landouzy makes it 50, and Hergt as high as 66 per cent. Dr. Danillo, of St. Petersburg, has recently examined the question, and of 200 insane patients he found diseases of genital organs in 80 per cent; and of 140 women who still menstruated he found 120=84 per cent who had some affection of the uterus or its appendages. In 60 who did not menstruate he found only 18–28 per cent so affected. Dr. Danillo therefore comes to conclusions quite opposed to those of Dr. Ripping. (Journal of Mental Science.)

LACING UP WOUNDS.—Dr. A. B. Frazee, of Elbridge, N. Y., referring to the subject of traction sutures (Medical Record), says: "I take two pieces of strong adhesive plaster (Meade's plaster is the best I know of for my purpose) as long as the cut to be drawn together, and as broad as circumstances will allow, and, after folding back the edges one fourth inch that are to be next the cut, I fasten ordinary dress-hooks, which are sold at the dry-goods stores, along the folded edges at regular intervals. Then, after drying the skin, I apply the plasters each side of the wound, a little distance from the edges, with the hooks opposite one another, and with a strong thread lace up the wound like a glove. The advantages of this are: (1) The thread can be loosened or tightened from day to day, thus keeping the edges in apposition while allowing for swelling, etc. (2) The wound is accessible and can be cleaned and dressed very easily. (3) In many cases sutures will not be needed at all, thus avoiding the irritation they cause and the scar. (4) If sutures are used to insure more perfect apposition, the strain is taken off them and they will irritate less in consequence. (5) The plasters will hold much longer than sutures, will pull more evenly and bear greater tension without yielding. The hooks can be sewed to the plaster, but in most cases a more convenient way of fastening them on is the following: Prepare the hooks by turning the ends of the wire out so as to be at right angles with the hook. Then, before tearing the cloth off the plaster, fold it back half an inch and with a penknife cut through the two thicknesses parallel with the edge where the hooks are to be, then tear off the facing-cloth and pass the hooks through the slits. The cutting weakens the plaster somewhat, and if much traction is to be made it is better to sew the hooks on."

STERILITY RESULTING FROM ALTERED VAGINAL SECRETION.—Dr. Jung, Vienna, reports a case of sterility which was caused by abnormal mucous secretion of the vagina. The mucus, as observed three or four hours after coitus, exercised a deleterious influence upon the spermatozoa, which showed no sign of motion. Astringent injections of the vagina and thigh baths were employed with success, and within three months conception took place, after she had remained childless for fourteen years of her married life. Her sterility had previously been treated unsuccessfully with cauterizations of the cervix with nitrate of silver, and bilateral incision of the os. (Medical and Surgical Journal.)

ICTERUS DURING PREGNANCY.—At a recent meeting of the Académie de Médecine, Dr. Queirel mentioned three varieties of jaundice: (1) That occurring at the beginning of pregnancy and dependent upon a morbid state of the alimentary canal; (2) Icterus occurring toward the end of pregnancy, due to compression of the excretory ducts; (3) Jaundice met with at any period of pregnancy, depending upon disease of the liver itself. (*Gazette des Hôpitaux.*)

DIAGNOSIS OF DIABETES.—A correspondent writes to the *Gazette des Hôpitaux* on a simple means of recognizing this disease. Every time that a patient in consulting him passed the tongue several times between the lips in the course of conversation he concluded at once that his client was diabetic. Out of thirty-four cases not once did he observe an exception to the rule. The reason why is easily understood—dryness of the mouth—a fact well known to all.

Notes and Queries.

Bodily Location of Human Happiness.—Dr. B. W. Richardson, in the Asclepiad, treating of felicity as a sanitary research, observes: The center of the emotion of felicity is not in the brain. The center is in the vital nervous system, in the great ganglia of the sympathetic, lying not in the cerebro-spinal cavities, but in the cavities of the heart itself, near the stomach and in the heart. We know where the glow that indicates felicity is felt, and our poets have described it with perfect truthfulness as in the breast. It comes as a fire kindling there. No living being ever felt happy in the head. Every body who has felt felicity has felt it as from within the body.

We know, again, where the depression of misery is located. Our physicians of all time have defined that, and have named the disease of misery from its local seat. The man who is miserable is a hypochondriac, his affection is seated under the lower ribs. No man ever felt misery in the head. Every man who has felt misery knows that it springs from the body, speaks of it as an exhaustion, a sinking there. He is broken hearted, he is failing at the center of life. He is bent down because of the central failure, and his own shoulders, too heavy to be borne, feel as if oppressed by an added weight of burden, under which he bends as though all the cares of the world were upon him to bear him down.

Commenting on this, the Lancet says that, in other words, felicity is a physical result of a brisk and healthily full circulation of the blood through the vessels supplying the ganglia of the great sympathetic system of nerves, and whatever quickens and at the same times frees the flow of blood in these vessels, particularly, engenders the feeling we call happiness. This is the fact, and we believe that it explains the action of many articles of food and medicine and medical appliances. It moreover explains and confirms the truth of the maxim which we have so often recommended for general adoption, "Be briskly, not languidly, joyous if you would be well." This is the converse of the doctrine that happiness is an affair of the heart and stomach. A comfortable, as contrasted with an austere life, is the most natural, and, therefore, the healthiest and best.

We sometimes wonder why those who live by rule, and tremble as they live, laboring to eat and drink precisely what is "good for them," and nothing else, are so weakly and miserable. The cause of failure is that such persons are over careful; life is a burden to them. They have no "go" in their mode of existence. One half of the "dispeptics" we see, and whose sufferings we are asked to relieve, would be well if they were only happy. Every thing in life and nature acts and reacts in a circle. Be happy, and your sympathetic ganglia will have the blood coursing through them with the bounds of health; and this quickening of the pulse, if it be produced by "good cheer," whether at the table or on the mountain-side, will in its turn produce happiness. Felicity is the outcome of physical state, and that state is itself enhanced by the sort of cheerfulness which often consists in being happy in spite of circumstances.

INGROWING NAILS.—The following practical hints on the management of ingrowing nails are from the Journal of Cutaneous Diseases: When the nail threatens to grow into the skin, or has already injured it, the first indication is to put on a sock of moderate size and to remain quiet. Afterward the nail is to be scraped on the affected side till it is sufficiently thin; then it is to be seized with a delicate forceps, raising it in a sense inversely to its natural curvature. This having been done, a small lamina of lead of a few millimeters' thickness is to be inserted beneath the nail, and after folding it over the toe, it is to be fastened there with a strip of plaster. In this manner, the granulation being no longer in contact with the margin of the nail, the pain ceases, and the sore heals more or less rapidly; during the whole of this time the apparatus should be frequently inspected so that the lamina of lead may not become displaced. Besides this, it is necessary to scrape the nail every two or three days so as to keep it thin and flexible until the skin returns to its natural state and can resist the pressure of the nail, and then the lead is removed. Hebra treats ingrowing nails in the following manner: Cut some flakes of lint of the length of the lateral groove of the nail, or a little longer. The lint is to be placed under the nail parallel to the groove; then with a flat probe introduce the lint, thread by thread, between the flesh and the nail. Thus the parts are separated, with the little cushions of lint lying between. The sulcus is then to be filled with pledgets of lint, and finally long, narrow strips of adhesive plaster are to be applied, always from above the inflamed sulcus downward, in such a manner that the latter is still farther removed from the margin of the nail. With such a dressing applied with sufficient care there is no pain whatever; and the patient can in a short time put on his ordinary stocking and walk without trouble. After twenty-four hours the strips of adhesive plaster are to be removed, being previously softened in a bath of tepid water. This dressing is to be repeated daily; and in from two to four weeks it will be found that the toe is entirely well.

IMPROVED SUBSTITUTE FOR BLUE OINTMENT.—Vomacka gives the following directions for the preparation of a substitute for blue ointment, which also keeps better: One part of soft and perfectly neutral potash soap is mixed with a little glycerine in a glass mortar, and one part of mercury is added with constant trituration. When no globules of mercury are any longer visible, add two parts more of potash soap to make four parts. It may be scented with lavender or other essential oil. (Medical and Surgical Reporter.)

INTERCOSTAL neuralgia, intercostal rheumatism, muscular rheumatism, or lithemia, often gives great pain to the patient and trouble to the physician. We have found Recipe, lithium bromidi, two drams; ammoniæ mur. two and a half drams; aq. dist. three ounces; sig. a teaspoonful every half hour; to do more good than any thing we have ever used. It usually gives relief in two hours. (Medical and Surgical Reporter.)

A KNOWING WITNESS.—At a recent trial in this city a medical "expert" was examined in regard to certain points in neurology. In the cross-examination he was asked if he recognized a particular book as authority in the matter, and the question was repeated in regard to another book, and then another. His answers were to the effect that he was familiar with all the books mentioned, and that they were authorities on the matters alluded to. The medical witness was then allowed to leave the stand, and the lawyer's clerk was sworn, who testified that the titles to the works in question were fictitious, having been concocted in the law office to which he was attached. (New York Medical Journal.)

PROFESSOR VIRCHOW, the celebrated anatomist, has written to the newspapers to express his opinion, come to after careful scientific investigation of the subject, that the danger arising from trichinosis in German pork is "infinitely greater" than the peril of an epidemic from American-bred pigs, and that, to be consistent, the Imperial Government, which has forbidden the importation of all sorts of pig-flesh from the United States, ought not to allow the rearing of any swine at all in Germany. (British Medical Journal.)

A NEW INSECTICIDE.—The aqueous or acetic-acid infusion of the flowers of *Delphinium ajacis* is used as an insecticide. Its extreme cheapness and lack of odor distinguish it from other known agents. Its action is as an excitant, rubefacient, astringent, and antizymotic. In many cases this remedy shows a great resemblance to carbolic acid and iodoform. (*Archiv. der Pharmacie.*)

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Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Communications.

SYMPATHETIC OPHTHALMIA.*

BY W. CHEATHAM, M. D.
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Having had lately several recoveries of sympathetic ophthalmia, I think them rare enough to report. Some recent writers have accused the ciliary nerves, the circulation of the blood, the optic nerves, etc., each as the channel through which a diseased eye may affect its fellow. My own belief is that sympathetic ophthalmia is produced through the same channel by which defective refraction may produce headaches, bad teeth cause diseased eyes, a diseased eye produce epilepsy, a diseased uterus or stomach cause weak and inflamed eyes, that is, through the sympathetic system of nerves.

Inflammation in the fellow-eye may start in any portion of it, either optic nerve, retina, choroid, iris, ciliary body, cornea, or conjunctiva, yet it depends upon this sympathetic nerve for its cause. I explain it as sympathetic irritation is explained; this sympathetic inflammation simply being the result of continued sympathetic irritation. I should mention that as all diseases lately are claimed to have their own have their own micrococcus, one has been ascribed to this disease, though I fear with not as much justice as the micrococcus of delirium tremens has been called "the worm of the still."

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*Read before Kentucky State Medical Society, 1884.

A writer in the last Archives of Ophthalmology, after going pretty thoroughly over the various theories, comes, I think, justly to the following conclusions:

1. That the doctrine that sympathetic ophthalmia is the result of progressive optic neuritis, which spreads from the primarily to the secondarily affected eye, is supported by no facts worthy of serious consideration, but is the outgrowth of grossly misinterpreted clinical, pathological, and anatomical observations.

2. That the septic-choroiditis theory of Leber rests upon evidence which is scarcely more substantial, and from both an anatomical and clinical point of view is open to serious objections.

3. That there is an overwhelming preponderance of testimony, both clinical and pathologico-anatomical, in favor of the one-at-a-time universally accepted doctrine that sympathetic ophthalmia, like sympathetic irritation, is a reflex neurosis depending upon irritation of the ciliary nerves; and that as this testimony goes far to show that inflammatory changes of texture as well as abnormalities of sensation may be produced by reflex-nerve influence, it has a very important bearing upon the theory of the etiology of inflammation at present most in favor.

In speaking, a moment ago, of the effect on other organs of sympathetic irritation arising in some distant organ, I mentioned epilepsy as resulting from a disorganized, painful eye. I had one such case, in which the fits were as frequent as ten or twelve a day, that was relieved entirely by the removal of the diseased eye.

I have in the last twelve months seen four cases of sympathetic ophthalmia. Wounds of the cornea, in which the iris becomes engaged, and wounds of the ciliary region, when pressure upon the ciliary nerves is made by a cicatrix or by plastic material are much more liable to produce inflammation of the fellow-eye than other injuries. This sympathetic inflammation may set in at any time from two weeks to many years after the injury. I have seen it forty-seven years after the primary trauma. I fear, from what I have said, I have left the impression that a blow on, or wound of, the eye is necessary to produce this affection in the fellow-eye; almost any disease of an eye may endanger its companion by this sympathetic neurosis.

Wounds of the eye the result of operations, such as extractions of cataract or iridectomies, may endanger the fellow-eye. It is not necessary that the diseased eye should be painful of itself, or from pressure, to produce disease of the fellow-eye. The symptoms of sympathetic irritation which, I contend, always precede inflammation, are slight temporary blurring of vision, fear of light, flashes of light, pupil fails to dilate and contract as normally, and easy fatigue of eyes from use.

Just here I will report four cases seen lately:

Mr. P., struck in the left eye with a nail six months before he came to me. The nail made a large wound of sclera in ciliary region. Four months after the injury, symptoms of sympathetic irritation set in, which were soon followed by plastic iridocyclitis. When I first saw him, vision of both eyes was zero. I advised removal of wounded eye, which was submitted to. By leeching, warm and cold cloths, iodide of potash and mercurial inunction continued for four months, he returned home with vision enough in right eye to go any where he wished. He afterward made frequent visits to see me, driving forty miles alone.

Capt. S. lost sight of the left eye, some years ago, from inflammation. Cornea of the left eye opaque, synechia posterior, with cataract. Some months ago sight of right eye begun to fail. When I saw him he could only distinguish daylight from darkness; left eye was not sensitive to either light or touch. After trying for a few days treatment with no change for the better, I enucleated left eye, fearing the trouble was sympathetic.

The eye was removed under local anesthesia. He was now put on the mercurial inunction. I forgot to say the inflammation in the right eye was plastic, and appeared as if it was going on to suppuration. Leeches were applied to temple; room darkened and rest in bed advised; cold cloths applied. In eight or ten weeks the captain returned to his work with vision $\frac{20}{40}$; synechia posterior.

Mr. C. had choroiditis, left eye; was treated by another oculist who performed iridectomy. Iridocyclitis followed, with closure of pupil. Some weeks afterward a spot of choroiditis started in right eye in supero-temporal quadrant. His oculist advised iridectomy in this eye, with enucleation of left; against which the patient kicked, and fell into my hands. I treated him for some months, getting vision $\frac{20}{20}$, right eye. No vision of course in left eye. He returned home, reporting to me only occasionally. About four months ago he returned with symptoms of inflammation—right eye again; vision $\frac{20}{50}$; neuro-retinitis, right eye. I advised enucleation of left, to which he readily acceded. In three days the neuro-retinitis was greatly improved and vision doubled. He has gone on improving slowly but steadily since.

Mr. N. was struck in right eye, back of ciliary region, by a piece of steel about one third of an inch square, laying open the vitreous chamber, evacuating most of vitreous humor. I put him through the usual treatment, but sympathetic irritation soon followed, then inflammation. I advised enucleation, when he first came to me, and insisted upon it now; but, being an ignorant fellow, he said he would just as soon have his head taken off. I treated him as usual in these cases, with no good result. He lost both eyes. This was an especially sad case, as he was a very poor man with a large family. None of these cases gave any syphilitic history. I think they make a pretty good showing of what can be done in such cases, when carefully and properly managed. It shows also that these advisers of early enucleation, or rather advisers of enucleation of all eyes that are blind are of no service, because if sympathetic inflammation sets in all is lost, are sometimes mistaken. My views as to this point will be thoroughly given a little later.

An extremely important point to answer is, when an injured eye presents, shall we enucleate or not?

Two years ago a mechanic came to my office, with a wound of sclera, retina, choroid, and ciliary body. The wound was fully half an inch long, extending from near temporal edge of inferior rectus, up and in, to near superior edge of internal rectus; there was great loss of vitreous. I cleared the edges of the wound thoroughly and put in one silver suture near the center, brought the edges together. Used atropia sulph. and cold cloths. In four days the man could tell the time of day by a watch. He made a rapid recovery.

I was called to Charlestown, Ind., two or three years ago, to see a lady. While sewing on an old umbrella, the needle struck one of the steel ribs and, rebounding, struck her on the cornea of left eye. It gave her scarcely any pain at the time. I saw her one week later, when suppurative ophthalmitis had destroyed the organ.

Here we have two cases illustrating the uncertainty of the result of injuries of the eyes. Shall we then enucleate all blind eyes, and all injured eyes where we feel no sight can result from treatment, because of this danger of sympathetic ophthalmia? In the first place no one can tell at once whether or not a majority of the injured eyes will go blind. In considering this subject let us first decide as to whether this operation of enucleation is, as most physicians believe it to be, a harmless one. Graefe, Mannhardt, Horner, Just, Pagenstecher, Verneuil, Vignaux, and Mauthner, report fatal cases, that is, death the result of enucleation. I myself have had severe hemorrhage to follow enucleation in two cases; in one case nearly fatal. In the young it often leads to deformity, by contraction of the orbit. Again, sympathetic ophthalmia is occasionally excited by enucleating the diseased eye. Again, when the sympathetic ophthalmia is a serous iritis, the enucleation of the offending eye excites a plastic iridocyclitis with loss of the good eye. So it will be observed that enucleation is not entirely harmless. The picture on the other side (that is, the danger of total blindness) is not very bright, I admit, yet these small matters must be taken into consideration.

Is it proper to advise the enucleation of a hopelessly blind eye as long as the other is normal? I can better illustrate my answer to this by relating two cases bearing on the point, and again referring to one I mentioned a few moments ago:

During last winter a young man came to me from Clarksville, Tenn., having been shot in his right eye the day previous. The shot passed through cornea, iris, lens, vitreous, retina, choroid, and sclera, into the back of orbit. Of course the latter was not discovered until after enucleation. The young man was a farmer in medium circumstances. I made the following statement to him: "If you will stay here under my observation for some weeks, it is possible that I might save that eyeball for you, and possibly even with some vision. There will be great loss of time and considerable expense; notwithstanding the best treatment I can give you, it is quite possible that the eye may finally have to be removed. There are many chances for this, with some risk of its affecting the other eye, and, even if it does not destroy it, damaging it very much." After telling him such objections to an enucleation, its dangers, etc., I told him of the discomfort of glass eyes, besides their being expensive. "Again, if you decide to have it enucleated, I can do it at a certain time, at such a price, and you can return home the same day, or you can stay a week or ten days and get a glass eye, or, if you prefer, go and come back in ten days and get it. One great objection to your endeavoring to retain this eye is the distance you are from an oculist. Should sympathetic inflammation set in, it might destroy your good eye before you can reach an oculist." He wisely decided to have the eye removed, which was done next day. The condition of the eye, shown after enucleation, confirmed the wisdom of his decision.

A gentleman, living in Louisville, received a shot in his left eye, in about the same location as in the other case. The same statement was made to him, modified perhaps by rather more hope for vision. In this I found I was mistaken, as the eye is hopelessly blind. But the main differences between the two are these: Number two is in a better financial condition, can better stand expense and loss of time; and is where he can find an oculist at any minute almost. Another important point bearing on this portion of my paper, let me recall the case mentioned a moment ago, where both eyes were lost as the result of trauma to one. Here I advised immediate enucleation, first, because he was poor and could not afford to lose the time involved in my efforts to save it, but mainly because of his ignorance, fearing his inability on this account to recognize sympathetic irritation. He did fail, not only to recognize sympathetic irritation but also sympathetic inflammation. As a result he is totally blind.

So it will be observed that this question of preventive enucleation hinges on other important points beside the dangers of sympathetic ophthalmia: The patient's financial condition—I mean his ability to lose the time for a lengthy treatment—the nearness of a physician able to recognize sympathetic irritation and enucleate the offending eye, and the intelligence of your patient, are very important factors to be considered.

So far I have only spoken of cases in which the offending eye is blind. Here my advice is, if the patient is intelligent enough to recognize sympathetic irritation, and living in close proximity to a competent physician, do not enucleate unless such irritation declares itself. But if the person be either ignorant or too poor to afford the loss of time needed in preventive treatment, or in one living miles from competent medical advice, immediate enucleation is indicated.

Again, if the sympathetic inflammation takes that type known as serous iritis, an enucleation should be avoided if possible, as such a procedure often results in a plastic iridocyclitis, with loss of the good eye.

I have yet said nothing of the enucleation of injured eyes with some useful vision, or of eyes in which useful vision can be restored by either treatment or operative procedure, such eyes exciting sympathetic inflammation. "Never enucleate such an eye," so says Mauthner, "when the sympathetic inflammation takes that form known as iridocyclitis." He says this, believing that any eye with sympathetic iridocyclitis is surely lost. In this paper I report two recoveries. In one case there was only perception of light; in the other vision was zero; one got vision enough to go any where he wished; the other has vision=$\frac{20}{40}$. Mauthner gives this advice, believing the sympathetically affected eye is sure to go, and expecting to depend upon the primarily affected eye for vision. If sympathetic iridocyclitis is not, then, as grave a disease as he thinks it, and as my two cases out of three indicate, can we follow his advice? His creed is this—I quote him because he has studied more thoroughly and written the most comprehensive work I know of on this subject: "Enucleation may be performed as a preventive. It must be performed in the stage of irritation. It can not be performed in iritis serosa and iritis plastica. It can be performed in iridocyclitis-plastica, provided the eye causing sympathy is totally blind, but not in a state of violent irritation." In commenting, then, on this creed of Mauthner's, I would modify it; and I think the three cases of iridocyclitis reported by me, with one partial recovery, and one good recovery—and in the third case we can not tell what might have been the result if he had reported to me sooner, even if he had done so as late as the onset of sympathetic inflammation, and I think the result in the other two cases justifies me in thus inserting a question mark—support me in this modification. I give this as my modification of Mauthner's creed: Enucleation may be performed as a preventive under the restrictions before laid down. It is better to perform it in the stage of irritation; but if you can not perform it then, in the stage of inflammation, for while there is life in the eye there is hope. It should not be performed in iritis serosa. It can be performed at the onset of iridocyclitis-plastica, although the eye causing sympathy may not be blind.

MISTAKEN DIAGNOSIS—ALMOST A LAPAROTOMY.*

BY B. W. STONE, M. D.

The record I now read is made from notes taken of the case, which occurred some years ago:

A German woman, aged thirty-five years, ignorant, totally unacquainted with the English language, was transferred to a metropolitan hospital from the county almshouse for treatment for abdominal dropsy.

The history of the case, as given by the almshouse physician (the woman herself could give none) was that the woman was admitted at the almshouse, on account of abdominal dropsy, five weeks ago. Paracentesis was performed about one inch below the umbilicus, and about five gallons of fluid withdrawn. She has three children, and has had two abortions, one at third and the other at the fifth month of gestation, the last occurring three years ago. She has since given birth to a full term-child, now living, about seventeen months old. During the past winter she exposed herself to cold and damp a great deal; was always thinly clad, and frequently did washing and out-door work in her bare feet during quite cold weather, and suffered with a constant bronchial catarrh. Her abdominal trouble began six months ago. She was suddenly seized with sharp pains in her back and side; these continued for a week without mitigation, when an enlargement of her abdomen became distinctly perceptible. Subsequently, vomiting occurred at intervals, continuing for two months. During this time the abdominal enlargement rapidly increased. Five weeks ago she was admitted into the almshouse in this condition. After the tapping, which took place ten days ago, she was transferred to the hospital, with no other account of her case or condition than is recorded in this statement.

With the above history before him a well-informed physician, but only a yearling in practice, made the first examination—a very cursory one—of the case, and pronounced it simple ascites. Two accomplished physicians, and of larger experience, were called into consultation. They made a protracted examination and easily found a large tumor, strangely overlooked by the first examiner, within the abdominal cavity, apparently having its origin in the left side of the pelvis, and rising to within an inch and a half of the umbilicus. Influenced by the account of the tapping in the case, excluding ascites, they pronounced it left ovarian dropsy. Hydragogues, diuretics, and diaphoretics were ordered, with the application of the ointment of iodide of potassium over the site of the tumor. One week subsequently the case was turned over to a distinguished professor of surgery for operation.

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The professor made examinations with the sound and speculum, and externally, by palpation, etc., inquired into the history of the case, and finally concurred in the diagnosis of ovarian dropsy. Next day an eminent physician of very large practice was called to examine the case. The sound and speculum were brought into requisition, and careful external examination also was made. He also concurred in the diagnosis of ovarian dropsy, and as to the advisability of early operation. A few minutes after this examination a slight bearing-down pain expelled a large clot of blood. This was considered of no consequence, as a small opiate soon removed all suspicious symptoms. It was decided to perform ovariotomy on the fifth day after this examination. The day following, the professor delivered a clinical lecture to a large class of medical students upon ovarian disease, the patient being before them. The points differentiating the disease from other conditions were carefully explained, and the announcement of the operation made.

An able obstetrician, a professor and an author of national reputation, was finally called in, late in the afternoon of the day immediately preceding that set for the operation. This careful specialist listened to the history of the case and all previous examinations, and proceeded to examine the tumor, first externally, by palpation, percussion, recognizing co-existing ascites.

Upon using the sound, that instrument passed to a depth of five and one half inches into the cavity of the uterus. He diagnosed the existence of two tumors; one, the enlarged and subinvoluted uterus, the other, of doubtful character, but lying closely upon the womb, probably a cystic tumor developed within the broad ligament or in the mesentery.

The sound, when withdrawn after this exploration, as when it was introduced by those who had examined the patient previously, was found covered with blood, and, as in former examinations, pains came on soon afterward. This time the pains soon assumed a more violent bearing-down character, for which ten grains of Dover's powder was given. In fifteen minutes after the examination the patient passed, from her vagina, three pints of blood and water. Some little bleeding continuing after this, lumps of ice were passed up the vagina, which apparently arrested it.

The patient gave birth, at half-past eight o'clock, P. M., to a six and one half months' fetus, which lived until six o'clock the following morning, and died.

The candid professor lectured, the same day, with the tumor before him, upon ovarian tumors, the various methods of diagnosing them, etc.

Four minute ecchymotic spots on the back of the child doubtless indicated the points where the sound was arrested in the last examination, and supposed then to have been the limit of the uterine cavity. Attention is called to several circumstances calculated to mislead the most careful: (1) The account of the actual existence of some form of dropsy; (2) The fact that the physicians who made the earlier examinations were those of the least experience, and though their explorations were not as thorough as the gravity of the case demanded, their opinions powerfully biased subsequent diagnosis, and doubtless rendered less thorough each successive examination. It is also worthy of remark that neither ballottement nor auscultation were employed by any of the physicians in the case.

REPORT ON EPIDEMICS, 1883–4.*

BY J. M. HARWOOD, M. D.

The answers to letters of inquiry concerning epidemics sent to nearly every county in the State enable me to make the gratifying statement that Kentucky has in large degree escaped epidemics of the more commonly fatal diseases. But nine counties have reported epidemics that were considered worthy of being so called. Of these but three are noted for either fatality or extent, the remainder being worthy of mention solely because of the small fatality and narrow limits accupied by the diseases.

Mercer County reports the most extensive epidemic of measles of a mild form, about five hundred cases with five or six deaths; twelve cases of typhoid fever, two deaths.

In Warren, pertussis prevailed very generally with no death at date of report.

In Fleming County there were fory-five cases of scarlatina, with seven deaths. Nothing peculiar or unusual marked the disease. Also an epidemic of measles of mild form; no deaths.

Boyle County reported ten cases of typhoid fever in and around Junction City. The sanitary condition of the place being bad, and the drinking-water, which is procured from shallow wells, being worse.

In the Deaf and Dumb Asylum, at Danville, three cases of scarlatina appeared simultaneously. These were promptly isolated, and no more occurred.

Clay County reports an epidemic of pertussis, with no deaths; also some dysentery scattered over considerable territory, a few deaths; no evidence of contagion, or of its having a common origin.

The most fatal as well as most extensive epidemics appeared in Knox and Graves counties. In the southwestern portion of Knox County, over a territory of about twenty-five miles in length, nearly every family was afflicted with dysentery, and the fatality amounted to about fifty per cent. The number of cases is not reported. The epidemic commenced about the middle of June, and lasted until the last of October. Preceding this outbreak was an epidemic of typho-malarial fever, confined principally to the same locality. This was also very fatal. The region is low and marshy, the water standing on the surface during wet weather. The drinking-water is usually obtained from shallow wells which go dry in summer, and when the fall rains set in are often the receptacles of filth.

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*Read before the Kentucky State Medical Society, 1884.

A most extensive epidemic of dysentery is reported in Graves County during last summer. It commenced in Mayfield, and gradually spread over the whole county. The sanitary condition of the town is reported as having been bad. The greatest mortality was among children, though all classes and all ages suffered. One peculiarity of this epidemic was that the fatal cases invariably had a cold stage every morning, which often ended in death. Quinine appears to have been the most successful remedy. The "ipecac treatment" was not successful in these cases.

Several slight epidemics are reported from Paducah, the worst of which was that of dysentery last summer. It was of that type known as "bilious." The patient was generally taken at night with profuse diarrhea; this was followed in ten or twelve hours by hemorrhage and vomiting, which continued through the disease. The stools and fluids vomited were bilious in appearance. The tongue remained red and without coat during the whole course of the disease. The number of cases or percentage of deaths has not been reported.

In Shelby County, smallpox prevailed as an epidemic from the latter part of January until May 1st. Sixty-five cases, fifteen deaths. But one white person suffered; the remainder were colored. The lack of a pest-house—a building in which the sufferers could be isolated—led to the long continuance of the disease. On the first of April a suitable building was obtained and the disease was brought quickly under control. In the neighborhood of Simpsonville, Shelby County, last fall, there were about twenty-five cases of diphtheria, with six deaths. In endeavoring to trace the origin of this disease it was found not to result from contagion but made its appearance in those houses whose sanitary condition was bad. Dr. Ryon, who treated most of the cases, is of opinion that it came from bad water.

SHELBYVILLE, KY..

A VESICAL CALCULUS VOIDED BY RECTUM.*

BY J. F. M'ELROY, M. D.

A colored boy, fifteen years old, had suffered for several years with symptoms of stone in the bladder. He was very weak and much emaciated. The urethra was too sensitive to allow the passage of a sound. I endeavored to improve his general health, and put him if possible in condition for an operation. A week after, while at stool, he passed by the rectum a mulberry-colored calculus two inches long, nearly an inch in its short diameter, and weighing a little under one ounce. A rectal examination revealed the opening between the bladder and the gut by which the stone had passed. The patient improved at once and rapidly, and in three months was well. While on his feet the urine came naturally by the urethra; when in the recumbent posture it came by the rectum. A year later the patient died of malarial fever.

The autopsy, made by Dr. McCormack and myself, revealed an opening between the bladder and rectum large enough to admit the finger. The walls of the bladder were thickened, and the mucous membrane of the rectum was much congested.

BOWLING GREEN, KY.

*Read before the Kentucky State Medical Society, 1884.

BIGELOW'S LITHOPLAXY.*

BY A. W. JOHNSTONE, M.D.

It seems difficult for the ordinary run of practitioners to recognize the fact that a stone is never the disease itself, but is always a symptom and a very bad complication of a great many different conditions; consequently, when a stone is found, they think that with its removal their responsibility ends; and when a stricture, an enlarged prostate, an inflammation of the ejaculatory ducts, or any other organic interference with the urinary tract is discovered, they jump at the conclusion that this is the "*fons et origo*," and leave the unsuspected stone to do its work. If I can convince you that, no matter how satisfactory an organic cause you may find for a vesical disturbance, over and above it there is always a possibility of a stone complicating the known trouble, this digression from our subject will be time well spent.

Your suspicions once aroused, Thompson's searcher, with its sharp curve and short beak, if properly handled, will find most any stone, though it may not give a satisfactory click from a soft phosphatic mass. I have found that Cammen's stethoscope will magnify this sound so as to make it quite satisfactory. If you are accustomed to this and will auscult the vesical region of the abdomen with it while you make the point of the sound tap the suspicious point in the bladder, it will clear up many a doubt. The difference between the sound passing over a hard stone, in a sacculated viscus, and a soft phosphatic stone is at once made plain, and the information it gives about the condition of the vesical wall is not to be despised. A uric or oxalic stone will speak for itself, but if you once get used to the tones that the common stethoscope gives you will not be without it.

Stones, however, are not invariably found, though the most careful search has been made. Prof. Sands told me he had once failed to find a stone which was afterward crushed by a surgeon who himself sounded eleven times before finding it.

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* Read before the Kentucky State Medical Society, 1884.

How to remove the stone is a not less important question than how to find it. Bryant says that in children we do not want a much safer procedure than to cut, but " in adults the danger of lithotomy rapidly increases with age, the mortality being one in eight between seventeen and forty, one in four above that age." Holmes, Gant, Erichsen, Ashhurst, Thompson, Gross, and Gouley differ but slightly from the foregoing.

Until the birth of lithoplaxy, the best that crushing could do in spite of the most carefully selected cases was about one death in seventeen, by Mr. Keith, of Aberdeen. The next best by Sir H. Thompson, on a much larger series, one in about sixteen. Whereas, since Bigelow's ideas have been put in practice, the average death-rate of ordinarily good operators, without much selection of cases, has been about one in thirty-three and one third. It is true that there are American lithotrists who will dispute these statistics, but when you come to sift their lists you will find that they embrace a great many children, and that all were done under the best possible antiseptics, plenty of fresh air, in private practice, and on selected cases.

In old times only small stones were crushed and in patients with no renal complications. Now, however, we hear of stones being successfully aspirated that weigh from five hundred to one thousand grains, and even more. Formerly it was with fear that a medium-sized uric stone was attacked, but now we do not hesitate on a good large mulberry, and instead of the weeks and even months that we used to keep working at the unfortunate, we expect to send him home safe and sound within ten days. We now care little for a cystitis, and we never wait on nephritis if we are sure it is not an old purulent affair. Strictures and enlarged prostates serve only to make us a little more careful in the operation. When Bigelow demonstrated that with a full sized catheter the bladder would stand the requisite amount of gentle handling necessary to evacuate its contents provided no solid material was left for it to wound itself on, surgeons of New York and Boston, London, Paris, and indeed the rest of the civilized world except our own country west of New York, were quick to adopt the method. Why is it, then, that the operation has made such slow progress with us? The only reason I can give for it is the proverbial dislike we have of details, and this, above all others, is the operation for the painstaking surgeon. The saying that "the day of brilliant surgery is over," has long since become threadbare, but I am sure that no operation proves it more thoroughly than this. By personal experience with most of the recognized surgical procedures I can testify that there is no operation that takes more care and forethought, and when duly exercised there is none that gives more satisfactory results.

On the 6th of last April, assisted by Drs. Howe and McClure, of Shelby City, Boyle, of Danville, Carpenter and Payton, of Stanford, I removed, from a gentleman's bladder, three hundred grains of phosphatic stuff. He was sixty-seven years of age, and for some years had been the subject of occasional spells of phosphatic cystitis from the residual urine of an enlarged prostate. The attack which resulted in the finding of the stone had existed since November. On measurement it was found that Otis's rule called for thirty French, which the urethrometer gave every where except at the meatus, where it was twenty-four. This was therefore split and allowed to heal before the final operation. After the first introduction of Bigelow's medium-sized lithotrite under anesthetic, it was found that twenty-six was the largest catheter that would pass the bar of the prostate, and, as the only one of that number I had was curved, it made the evacuation necessarily slow. The crusher and tube were introduced twice each, and would have been once more had it not been that the heart began to get restless under the A. C. E. mixture. Since the operation the patient has passed, all told, about thirty or forty grains of fine sand, and four pieces that were too large to pass the caliber of the twenty-six, but none of them would have been missed by a straight thirty. In spite of a pneumonia which he developed a few days after the operation his cystitis is about well, his micturition from every few minutes has gotten down to once or twice a night. He has gained flesh and strength rapidly, and from being confined to room and bed he now goes where he pleases, and does pretty much what he likes. There may still be a small fragment in the pocket behind the prostate. I can not remove his prostatic difficulty, and in spite of the most careful removal of his residual urine, we may expect an occasional deposit of phosphates, which will necessitate a careful watch being kept on him during the rest of his life. If vesical trouble shows itself, an occasional search will have to be made for small concretions.

Thompson says that he has cases under his care from which once or twice a year he removes a small ten-grain stone, and thus keeps them in a state of comparative comfort. The danger of this operation for so small a stone in a comparatively healthy man is little more than that of pulling a tooth.

During the aspiration of the fragments, I used on the same tube, first, Bigelow's original evacuator, and afterward Otis's improvement on it.

The objections to lithoplaxy are, first, the uncertainty in the selection of cases, and the accidents which come up while it is in progress. I have already indicated that there are very few adults for whom this procedure should not be selected. Of course, male children should always be cut, for the caliber of their urethras is never large enough to permit of sufficiently rapid evacuation, nor would it be safe to attack a medium-sized urate stone with the delicate lithotrite that would pass this small canal. I am sure that this is much the safest procedure for females of all ages. Where the ureters are dilated, or other complicating diseases of the urinary tract are present, lithoplaxy is far preferable to any other method of removing a calculus. The case I have just reported had not only a subacute desquamation of the larger tubes of the kidney, but also a few casts in his urine, all of which have now cleared up. Very large oxalate stones had best be left to the knife, unless the urethra will permit of an unusually powerful lithotrite. Of course, sacculated stones and those that are too large to lock the strongest lithotrites on will always have to be cut. But with these few exceptions every thing else should be crushed. Last, but not least, let us look at the dangers of the operator's own making. They begin with the selection of instruments and last until the evacuating catheter is withdrawn for the last time. There is not a step which is not fraught with danger to the patient and disaster to the operator, if he does not know what to do and how to do it gently. If he makes a false passage you know the result. If he catches the bladder between his blades, you are familiar with what follows. If one of his blades twist or break, a member of this body, I am told, can say how unpleasant it makes it for you. If, on the withdrawal of the crusher, you fail to free it of every thing but the small amount of sand that will lodge in the toe of the female blade, another member can say how disagreeable it is to drag a fragment out of the bladder and get it impacted in the urethra. If you fail to have on hand the most powerful lithotrite, another Kentucky physician can tell you how cheap one feels to have to cut for the nucleus after successfully evacuating the larger portion of its periphery. In the evacuation we must be as gentle in the working of the bulb as in the introduction of the large tube, and after it is safely in the bladder it must not be allowed repeatedly to suck a portion of the mucous membrane against its eye, for unpleasant reactions are apt to follow.

In answer to these objections, I would say, as Bigelow has so often repeated, it is next to impossible to get hold of a bladder that is distended, and that any surgeon is to blame who will use an untried lithotrite. I would not have one, he says, on which I could not exert my whole strength. If you will use the ordinary rules of lithotrity, I am sure that in an anesthetized patient you will never impact a fragment in his urethra. Finally, when are we sure we have removed the last particle? All I can say to this is, you feel confident when the catheter, which, by the way, is the best possible sound, fails to find any thing after prolonged search during the working of the bulb. Should a small portion be left after the bladder has been thoroughly distended, there is not the risk that there was when crushing was done with only three or four ounces of water in its cavity, for this distension of the organ produces a certain amount of temporary paresis, which prevents the organ from wounding itself on its rough angles, and thus saves the reaction. Besides the reaction, this method of removing stone saves intact the mouths of the ejaculatory ducts, the destruction of which in lithotomy has left so many to sterility.

So, in conclusion, we see that the greatest dangers are of the surgeon's own making, so that it behooves him not only to be careful in the selection of his instruments, but in every movement that he makes with them. No one should undertake this who is not personally familiar with all the other urethro-vesical disorders, and who is not already a tried surgeon, for in no position could an excited operator do more harm.

DANVILLE, KY.

A SUPPOSED ABDOMINAL TUMOR, WITH SLOUGHING OF THE CYST.*

BY JAMES S. PARRISH, M. D.

On May 22, 1878, I saw, with Drs. Ewin and Thomas, of Smith's Grove, the wife of Rev. Mr. J., age forty-three years; married twenty years, had never borne children, though delivered of what was supposed to be a false conception four months after marriage; menstruated at sixteen, regular since, though sometimes scant in quantity, and always accompanied by pain; has suffered occasionally from uterine prolapsus; bowels habitually constipated, and when acted upon by medicine the dejections give pain. She noticed an enlargement in the region of the right ovary about six or seven months before,

*Read before the Kentucky State Medical Society, 1884.

which increased until it reached about midway the abdomen. She now presents the appearance of a woman six or seven months pregnant, the uterus or tumor showing in the umbilical region slightly to the right of median line, solid, movable. Vaginal examination reveals the os high up, slightly retroverted, vaginal cul-de-sac shortened and indurated. We were unable to introduce uterine sound. The next day we again failed to do so, but succeeded in introducing a small probe to the depth of two or two and a half inches. Nothing seemed gained by the examination unless it served to show that the tumor was extra-uterine. The diagnosis remaining obscure, it was agreed to give some mere general treatment and wait. Ten days later I was telegraphed to come and aspirate the tumor. The patient was not so well as when first seen, but was hopeful and willing to undergo whatever was determined on. The next day I aspirated the growth with a large needle and drew off a small quantity of straw-colored fluid. The patient became suddenly nauseated, and syncope ensued. The operation was at once suspended and stimulants, etc., given. Severe abdominal pains occurred quickly, peritonitis followed; pulse rose to 120; temperature to 102°; tympanitis; great tenderness over whole abdomen, with persistent diarrhea. Patient rapidly lost flesh and strength, and for some days death seemed imminent. Toward the close of the second week, however, her condition improved, and seventeen days after the operation she was removed in a spring wagon to her home, distant about fourteen miles.

A week later her husband reported that the patient was taken with severe pains in the lower part of the abdomen, which sent her to the vessel, where she felt something give way, as she expressed it, and pass out of the rectum. On examination, the vessel was found to contain what, in the language of the husband, seemed to be "a mass of flesh." Dr. Hackney, a neighboring physician who had been called in, said the mass was about sixteen inches in length, nearly as broad, having an irregular border. A few days after I found the patient over her alarm. Improvement at once set in and she was soon entirely well. She regained her flesh, and remains in good health to the present time.

The mass has never been examined microscopically, and I am still at a loss to know what is its real character.

GLASGOW JUNCTION, KY.

PHLYCTENULAR CONJUNCTIVITIS; TWO CASES.*

BY T. D. FINCK, M. D.

The two cases of phlyctenular conjunctivitis I am about to report both followed upon measles.

CASE I. Lester, a boy twelve years old, tall, slender, clear, pale complexion, had, in March, an attack of measles, for which I attended him. The eruption lasted four days. The eyes were not specially sensitive to the light, were not painful, and the conjunctiva showed but little irritation. The temperature was never very high. He got out of bed and at play in the house in ten days. A week later he was out of doors. A month after he complained of a burning, stinging pain, with a sense of pressure, about his eyes, and occasionally inordinate itching. I found increased lachrymation, the conjunctiva injected and thickened. There were nodules and little excoriations side by side, skirting the margin of the cornea. The tarsal conjunctiva was quite red and the Meibomian glands very prominent. The patient was more pale and emaciated than when dismissed a month before. The cervical glands were very much enlarged. There were large crusts about the nose. I directed small doses of calomel, quinine, and the syrup of iodide of iron. The crusts were removed by a solution of borax. In addition, he had a salt-water bath daily, to be followed by friction with a coarse towel, and to be in the open air as much as possible, and his eyes frequently bathed in tepid water. Until the fourth day there was no marked change, except the lachrymal secretion was a little more catarrhal, and a few of the nodules had deliquesced. Soon after the glands of the neck began to diminish in size and the eyes to improve. No new nodules formed, and the old ones deliquesced, all being accomplished in about ten days.

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*Read before the Kentucky State Medical Society, 1884.

CASE II. J., aged seven, short and stout. He, like the first case, had recovered from an attack of measles three weeks before. The eyes presented the same features. The glands of the neck were somewhat more enlarged, and none of the conjunctival nodules had deliquesced. The same treatment as in the first case brought about recovery in much the same time. None of the excoriations showed a tendency to extend into the deeper tissues.

The eye trouble in both cases was attributed to measles, and if with truth, they possess a certain interest, for the conjunctivitis which succeeds upon measles is, as is well known, ordinarily of the catarrhal kind. The pathology of phlyctenular conjunctivitis, as is also well known, consists in engorgement of the lymphatics of the conjunctival membrane, and subsequent rupture of one or more of them in the limbus of the conjunctiva.

I need hardly add that enlargement of the glands of the neck always co-exists with conjunctival herpes. The distribution of the lymphatics in the conjunctiva affords sufficient explanation of this, and also, I think, corroborates the view that phlyctenular conjunctivitis is due to glandular engorgement, while it excludes measles as a cause of the disease, other than in a general way, and through the system at large.

LOUISVILLE, KY.

KENTUCKY STATE MEDICAL SOCIETY.

Proceedings of its twenty-ninth annual session, held at Bowling Green, June, 1884:

MISTAKEN DIAGNOSIS.

Dr. D. W. Yandell, of Louisville, said:

The report read a moment ago by Dr. Stone* merely adds another to the list of mistakes in diagnosis. The valet of Beau Brummel, coming one morning from his master's room with a lot of crumpled neckties on his arm, remarked, "these are our failures." It is a pleasure to think, however, that with increase of knowledge our failures grow less and less frequent. There are few physicians who have seen much disease who can not refer to mistakes committed by themselves at least.

There is a gentleman here present through whose kindness I saw, four years ago, a case of enormous abdominal tumor. He himself thought the disease was ovarian, but a practiced ovariotomist living in Philadelphia and a very distinguished general surgeon of that city and myself all held that the tumor was a fibroid. Time went on, and one night about a year ago the woman was seized with all the alarming symptoms which denote the bursting in the belly of an ovarian cyst. The medical man called to her tapped her, as affording the best means of relief, and drew off an enormous quantity of fluid. The patient rallied and got about again. The tumor refilled. I subsequently did ovariotomy, and removed a very large cyst, absolutely without adhesions.

I call to mind also the case of a widow, whose husband had been dead a year, who had an abdominal tumor. Two eminent gynecologists in Louisville and two in New York examined the case repeatedly, and all concurred in the opinion of the growth being a fibroid. Five months later she gave birth at full term to a child.

Some years back, a gentleman, who was then the most experienced and successful ovariotomist in Louisville, pronounced a case ovarian disease and advised removal of the tumor. The surgeon whose case it was, and who of course concurred in the diagnosis, made every preparation for the work, even to fixing the day and selecting his assistants. Nature saved the surgeon any further trouble by bringing on labor a few hours before the time appointed for opening the abdomen.

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* See page 73.

These and like cases simply show that very wise and experienced practitioners make mistakes in diagnosis. It unfortunately happens, however, that these mistakes are sometimes used as "a refuge for incompetency."

POPLITEAL ANEURISM.

Dr. T. J. Townsend, of Bowling Green, reported a case of this disease:

Frank Ewing, colored, aged sixty-two years, occupation, wood-sawyer, received on the 10th day of August, 1882, an injury on inner surface of left knee from a flying stick, which resulted in the speedy formation of a small tumor in the popliteal space. Its progressive increase of volume continued until the 3d of the following April (about eight months), when patient applied for treatment. On examination I found a pulsating tumor, the size of an ordinary cocoanut, occupying the entire popliteal space; a small spontaneous aneurism was also discovered four inches above. The leg was edematous, enormously swollen, and very painful, a condition produced by compression of popliteal vein and nerve; skin was smooth, with varnish-like surface.

Treatment by flexion or compression was considered inadvisable, and deligation of the femoral artery was resorted to as the best expedient, after which the leg became very cold, even as in death. To soothe the burning, stinging, pepper-like pains complained of and to encourage circulation in the injured member, the vigorous application of friction by the hands was suggested, and became for some days his only solace and comfort, for its long discontinuance never failed to produce the inevitable howl for its resumption. During intervals of rest or sleep the limb was enveloped in cotton wool. On the twenty-fourth day the ligature came away, and permanent cure was well pronounced. At the writing of this, fourteen months later, examination finds a hardened semi-elastic tumor at the seat of the large aneurism, the smaller one having spontaneously and entirely disappeared.

SHOULD HEMORRHOIDS BE OPERATED ON WHEN INFLAMED?

Prof. J. M. Mathews, of Louisville, addressing himself to this question, said:

From a variety of causes, piles are liable to become inflamed, and once inflamed, they may easily become strangulated by passage below the sphincter. Every thing is aggravated in this condition, and it may take some weeks to quiet the trouble. It has occurred to me, why not operate upon and get rid of them at once? There is no authority that says "operate upon a pile during the inflamed state," but they will tell you to apply treatment to reduce the inflammation. I want to state one or two cases. A few weeks ago I was called to a lawyer who was in this condition. The family physician in attendance had tried in vain to quiet inflammatory action for two or three weeks. I found, hanging down from the anus, two solid tumors; I passed the knife around them and ligated them. I visited him the following morning, expecting to find him in some trouble. To my satisfaction, he was out of the house in one week's time. Another case: A young man had a mass of inflamed tumors hanging from him larger than my fist. It would have taken several weeks to abate the inflammatory trouble, and I ligated the whole mass. I went to see him the next morning. I was told by the people at the house that he had rested well all night, and got up early in the morning and went out. They sent for him, but he could not be found. Three days later I received a postal from Cairo, Ill., saying that he was that far on his way home, and was all right. When he got home he wrote me that he was entirely well. Since then I have had, I suppose, five or six cases of similar character, in which the proceedings and results were similar. I have therefore concluded that instead of applying remedies to relieve the inflammation in the tumors, they should be operated on at once.

THE COMMITTEE ON MATERIA MEDICA

Reported verbally through its chairman, Dr. J. P. Thomas, of Pembroke.

Dr. T. said he had made a fair test of the hypnotic, paraldehyde, suggested as a substitute for chloral; found it a very mild soporific in those cases of insomnia from excitement; that it seldom exercised an effect after two hours subsequent to its administration. Kairine as an antipyretic he had found to be quite inferior to salicylic acid and quinia, and only successful in dangerous doses. Its action upon the heart was out of proportion to its powers as a febrifuge. He had used hyoscyamin in but one case of acute mania, and instead of allaying it seemed rather to increase the excitement.

Dr. J. M. Mathews remarked:

The chairman has spoken of a substitute for chloral. I have used that article for years, and I must now confess that it is less a favorite with me than it formerly was.

Prof. J. W. Holland, of Louisville, added:

I wish the reporter had included the word opium in his reference to melancholia. More than a century ago Sydenham pointed out the cordial qualities of opium, and I fear we sometimes lose sight of that in our consideration and use of the drug as a hypnotic. If there be a melancholia, it proves more profound when chloral is used than when opium is employed, and I fear the same may be said of hyoscyamin.

Dr. Pinckney Thompson, of Henderson, hardly supposed that any one considered chloral to be a curative agent beyond the power which it exerts to control a spasm of pain. In gastric neuralgia in full doses it will often relieve promptly, and so in all those attacks of acute pain which do not tend to recur once they are relieved. We are all well enough aware that chloral and opium are poisons in poisonous doses, and they have to be given with circumspection.

Dr. Fuqua, of Hopkinsville, thought it was the province of the discreet physician to find the proper place to use chloral, and then to use it with the same rule in view which guides the use of other powerful agents—use it for its effect.

Dr. McCoy called attention to the excellent results chloral gives in cases of puerperal convulsions.

Dr. B. W. Stone remarked:

The hyoscyamin has been somewhat extensively used at our Institution (The Western Kentucky Lunatic Asylum), and we consider it, especially in acute mania, a most valuable hypnotic. Our doses are large, and invariably given hypodermically, one tenth and one twelfth of a grain being the ordinary dose. This quantity has been used night after night for several months, always inducing sleep, but with no amelioration of the mental condition. Its soporific effect is more decided than that of the fluid extract of hyoscyamin in proportionate doses. It is probably not often to be preferred to chloral hydrate, a well-tried remedy in the same class of cases. Neither medicine can be continuously used for a long period without deleterious effect upon the general mental condition. We use them now much less than formerly, and rarely continue their use above ten days or two weeks. Chloral and the bromides are sometimes advantageously combined.

The influence of morphia in *melancholia* is most excellent. The suicidal tendency is often allayed or eradicated by this drug; while chloral, without doubt, occasionally arouses a dormant suicidal disposition in melancholics. I have in mind one patient who was cured of her melancholy by the medicine. This was one of two years' standing, in whom no evidence of improvement had been previously apparent. From one half to one grain was administered night and morning, with the effect of relieving her entirely in two weeks. She was discharged restored in one month, and has since remained well. No opium habit was induced as the medicine was gradually withdrawn.

In reply to a question asked of Dr. Stone as to

THE TREATMENT OF EPILEPSY

at the Lunatic Asylum, he replied:

We treat epilepsy almost altogether with the bromides of sodium, potassium, or ammonium. Our cures in fifteen years of extensive experience may be counted on the fingers of one hand. One epileptic man, very violent and homicidal after a series of paroxysms, had no seizures after commencing the medicine, during a period of four years' stay at the asylum. He was discharged as restored in mind, and returned two years subsequently, not having in the meantime had a single recurrence of trouble. I should mention that the cases of epilepsy which find their way into asylums are usually of the most obstinate type. The prescription in use at the institution has apparently restored half a dozen or more persons afflicted with the disease outside of the asylum.

THE PROGRESS OF SURGERY

Was reported on by Dr. L. S. McMurtry, of Danville. The first portion of the report was devoted to the subject of anesthetics. Recent studies as to the comparative merits of chloroform, sulphuric ether, bromide of ethyl, and anesthetic mixtures of these agents, were reviewed in detail. The experimental investigations of Dr. B. A. Watson, of Jersey City, were carefully considered, and his conclusions were that sulphuric ether is decidedly the safest anesthetic which has yet been employed in surgical practice, the mortality being relatively small when compared with that of chloroform, bromide of ethyl, and the mixtures employed. These agents of experimental study are confirmed by clinical experience. Dr. McMurtry doubts if any agent will ever be found which can carry patients so near the border lines of life in safety. He doubts if any thing is accomplished in avoiding danger by the indiscriminate exhibition of alcohol before giving an anesthetic. He then detailed the method employed by Mollière, of administering the ether vapor per rectum, and mentioned the recent publications of Dr. William F. Bull, James B. Hunter, and Robert F. Weir, upon this mode of anesthesia. The brief experience already recorded, he claimed, demonstrates the danger of the method, as exemplified by intestinal hemorrhage or diarrhea; but the advantages of a method which suppresses the period of excitement, permits accurate regulation, avoids bronchial irritation, and aids materially in operations about the face, are apparent, and the method deserves to be tested thoroughly. In concluding this portion of the report the speaker commended the ether inhaler of Dr. Allis, of Philadelphia. The greater portion of Dr. McMurtry's paper was devoted to recent improvements in abdominal surgery. He stated the indications of treatment in contused, lacerated, punctured, and gun-shot wounds of the intestines to be prevention of fecal effusion, hemorrhage, and peritonitis. To effect these, the abdomen should be opened, bleeding arrested, the wound of the tube securely sutured, and the peritoneum thoroughly cleansed. In this connection he quoted the late Dr. Marion Sims, who wrote, in 1882: "I have the deepest conviction that there is no more danger of a man's dying of a gun-shot or other wound of the peritoneal cavity, properly treated, than there is of a woman's dying of an ovariotomy properly performed."

Dealing with another branch of abdominal surgery, Dr. McMurtry alluded to the difficulties and uncertainties which surround the diagnosis of abdominal tumors. These difficulties were so great that in a large number of cases the diagnosis can only be positive when the abdomen is opened. He detailed illustrative cases from his own experience. In one case—that of a young lady with a fluid accumulation in the abdomen—the patient had been in the hands of several skillful surgeons, with a different diagnosis by each. After aspiration and the removal of two gallons of fluid, complete recovery ensued, thus showing the tumor to be a cyst of the parovarium.

Dr. A. W. Johnstone, of Danville, said:

There is one addition to the report that I think ought to be made with reference to the treatment of the wounded peritoneum, and that is drainage.

Lawson Tait speaks of drainage by the alimentary canal; he says he has long been in the habit of purging the cases that need drainage, and has secured excellent results from the practice. We all know that when a purgative is given, water must come from some source. I myself have had some experience with this treatment, and the results were most satisfactory. There is another point which I consider of importance, and that is the size of the drainage-tube to be employed in ovariotomy. I am much pleased with the very large drainage-tubes now in use. In one case in which I operated the adhesions were so extensive and the bleeding points so numerous, after the tumor was severed from its attachments, that I found it absolutely necessary to employ the persulphate of iron to stop the hemorrhage. I expected trouble from it afterward, but I was much gratified to find the clots, iron and all, passing through the large tube I had inserted.

Dr. D. W. Yandell remarked:

With reference to the future of shot-wounds of the peritoneum, I dissent from the doctrine of Dr. Sims. I differed with my gifted friend before he had committed his views to paper. I differed with him when the subject came up between us in London, in 1881. I wondered much that a man of his experience in shot-wounds of the abdomen—for he had seen this class of injuries in the Franco-Prussian war—should have allowed himself to think for a moment that the dangers of wounds made by balls entering the abdomen were no greater than those arising from ovariotomy. The conditions involved in the two are certainly very dissimilar. Even if this were not as I have stated, there would still remain a very broad distinction between wounds inflicted by different missiles themselves. For instance, an ounce ball driven from a rifle through a man's belly inflicts a very different wound from that made by a ball from a Smith & Wesson's pistol. A wound from a Derringer is quite a different affair from one made by an ordinary six-shooter. I do not remember having seen in the late war one man shot through the belly with a minnie ball, and who gave evidence of the ball having injured in its course a gut or a vessel, who recovered.

Wounds of the bladder inflicted by minnie balls were, according to my observation, invariably and quickly fatal; not, I think, always because of injury to the bladder, but because this character of projectile tears and bruises things dreadfully in its track. It is originally of such size, and is so often flattened and otherwise changed in shape in its course that it can scarcely penetrate the abdominal cavity without doing an amount of injury often entirely beyond the hand of the surgeon to repair. The ball from a Derringer pistol is of equal weight with a minnie, and at short range inflicts a wound but little less dangerous.

But I will not pursue this point further. If there be those here who subscribe to the teaching of Dr. Sims, they must still allow that there are shot-wounds and shot-wounds of the belly, and that the decision of operative interference in these injuries must depend largely on the size and nature of the projectile. Most men whom I have seen gut-shot were practically beyond the reach of surgery before surgical succor arrived.

I said to my friend, Dr. Sims, when we were discussing this question, that I did not think his doctrine expressed the real state of our resources. What Dr. Sims said was tantamount to saying that ninety to ninety-seven per cent of recoveries ought to occur after shot-wounds of the abdomen. This, I think, is calculated to mislead not only the profession but the public. I venture to say that taking the experience of individual members of this Society in shot-wounds of the belly—and this, as they live in Kentucky, will probably include half dozen cases each—five of the six will die, three of hemorrhage, one of peritonitis, and one of septicemia. More than twice as many will die of hemorrhage as of any thing else. Shot-wounds then in their very nature and from bleeding alone are more dangerous than ovariotomy, for hemorrhage of a kind that kills at once and beyond chance of arrest is not a feature of ovariotomy. The hemorrhage that occurs in ovariotomy the surgeon expects and is consequently prepared to meet. He knows as he proceeds when and whence it will come, and he arrests it on the instant. This is far from being so in shot-wounds. The precise course of a ball after it has once entered the body is beyond the ken of any surgeon I have met.

Yet I would not be understood as opposing such division of the abdominal walls as may be needed to make the search for wounded gut or injured vessel easy and complete. For I am, in fact, one of the most pronounced advocates of this doctrine as taught by the lamented master whose recent death we all mourn. I beg you to understand it is not the doctrine which declares this to be the proper practice and the only practice to pursue that I oppose, but it is the declaration that this procedure has been made by our knowledge of antiseptics and drainage as safe as ovariotomy. There are few cases of ovarian disease which the surgeon would decline to remove—there are many cases of shot-wounds in which opening the belly would be considered quite beyond good surgery, at least when the surgeon reaches them. Given, that you should be on the spot at the moment the ball is received and be fully equipped for laparotomy, I should say that even then if the ball alone penetrated the cavity and were from an ordinary pistol it might still not be good surgery to cut into the belly in search of it, for ordinary pistol balls do neither always open intestines or tear vessels. They occasionally penetrate the cavity without inflicting any injury whatever.

But I set out to say but little more than that this dogma of that very great and very good man, Dr. Sims, published in a moment of enthusiasm, is misleading to a degree which makes it necessary for some one to say that it is not founded in fact, at least in such poor knowledge as we yet possess, and that shot-wounds of the abdomen, no matter by whom nor how treated, are far more dangerous than wounds made in the operation of ovariotomy.

Dr. Pinckney Thompson, of Henderson, read a paper on

TYPHOID FEVER,

from which we condense the following:

Typhoid fever is a disease that has a distinct clinical history, runs a distinct course, and in my judgment is never aborted by remedies. The two important conditions to consider are the heat, that necessarily develops—the consuming fire which, in both my judgment and experience, the majority of the patients succumb to—and the involvement of the heart in the way of partial paralysis. In making the diagnosis of typhoid fever, it is not necessary to regard disturbance of the alimentary canal as essential to establish the existence of the disease. In some cases of the most inveterate type I have found no such disturbance, but on the other hand a sluggishness amounting even to constipation.

In controlling the heat in this disease, there is nothing so efficient in my experience as cold water. It need not be so cold as to produce shock—this is objectionable. I do not believe it necessary ever to have it below 75° or 76°, nor above 90°. It abstracts the heat, and should be repeated as often as necessity requires, as guided by the thermometer. I prefer the sponge bath, which is easily applied, not expensive, and in reach of every one.

The next important thing is to sustain the heart's action, and the best agent to accomplish this, and at the same time lower the temperature is, in my experience, alcohol. Another remedy I have found satisfactory in the early stages, in reducing the temperature and controlling the circulation, is salicylic acid in ten, fifteen, or twenty-grain doses.

Digitalis, in connection with mineral acids, as recommended by Flint, especially in connection with phosphoric acid, has given, in my hands, excellent results. I have also given the acids with strychnia. In the latter stages of the disease, by these, used in connection with belladonna, the heart's action is sustained, while at the same time the bowel troubles have been greatly mitigated. When, in spite of all, an excessive diarrhea with a tendency to hemorrhage supervenes, I know of nothing better than opium and subnitrate of bismuth.

An important feature of typhoid fever is the frequency with which intolerance on the part of the stomach manifests itself. I have seen cases, when ice and subnitrate of bismuth were promptly rejected, yield at once to iodine largely diluted in water, given every thirty to sixty minutes, as required.

There is no disease the physician is called to treat that demands from first to last a more rigid adherence to the principle of symptomatic treatment than typhoid fever.

Dr. John L. Taylor reported a case of typhoid fever in which for a time the temperature was subnormal, of which we make the following abstract:

A farmer, aged thirty-two years, had complained for a week with the usual prodromes of typhoid fever. I saw him March 30th, when I found tenderness on pressure and gurgling in the right iliac fossa; face purplish; tongue thickly furred and tremulous; temperature 103°; pulse 90. The next day the patient was in mild stupor, and had passed a restless night. Bowels acted three times; temperature 103°—had risen to 104° the evening before.

During the three succeeding days condition unchanged. Skin and tongue now grew moist; stupor deepened; muttering; rose-colored spots on chest and abdomen. On the fifth day sordes appeared on lips and teeth, and patient had five watery actions of ocher color. Other symptoms same. Next day delirium became more active; patient shouts at his horses, etc.; pulse dicrotic; epistaxis; involuntary stools; profuse perspiration; temperature and pulse rates same. Thirteen days after the temperature fell in the morning to 97°, and pulse to 68; lips and tongue dry; coma vigil, carphologia; subsultus, and involuntary dejections.

Three days later stupor still present, but patient easily aroused; skin and tongue moist; occasionally free perspiration; took temperature with five different thermometers. The several instruments each marked a temperature of 97°; pulse 84. Virtually the same condition of things continued now for the next ten days. On April 22d the temperature rose to 99° A.M., 102° P.M., and so continued during the next thirty-six hours. It then fell to 98.5°, and so remained.

The treatment pursued in the case consisted in sponging the patient at short intervals, at first, with tepid water, to which a little brandy was added—later, while high temperature continued, cold water and the wet pack were used. Milk was almost the only food used, the patient taking from two to three pints daily, during the twenty-four hours. Turpentine, muriatic acid, opium, ammonia, quinine, brandy, and sulphuric acid were the drugs given.

The foregoing case, it will be observed, followed the usual course of typhoid fever, until the nineteenth day, when the temperature fell, without any appreciable reason, one degree and a fraction below normal, and thus continued for ten days. During that time all the other symptoms of the disease, except heat, were present in their full force. The heat then returned for thirty-six hours, the thermometer registering 103° A.M., 104° P.M. It then fell, and convalescence became steady. I need scarcely say that in all febrile disorders a marked and persistent decline of temperature is, as a rule, quickly followed by an improvement of other symptoms. The present case, however, is a marked exception, for every feature of the typhoid state continued for ten days after the temperature was sub-normal.

After the conclusion of Dr. Taylor's paper Prof. Wm. Bailey remarked:

I believe that typhoid fever is undoubtedly specific in character. The well-defined clinical history establishes this beyond doubt. I think that in all probability the essential cause is a specific germ, probably introduced into the alimentary canal with food and drink, and possibly first entering the organism at the site of the glands in the ileum, which become the seat of the characteristic local lesion of the disease.

While I accept this as the most plausible theory of causation, not only in this, but in many other diseases, yet I am not ready, with my friend Prof. Holland, to confess that a complete demonstration has been made, as he claimed in his discourse on the "Cause of Phthisis." I shall at least wait for the inoculation of one more Greek.

To my mind causal relation has not been established between bacteria and the diseases in which they are found. I am waiting for the proof to be brought in, holding the question *sub judice*, in the meantime accepting the germ theory as most plausible, but I would not forget that it is but an hypothesis.

After the introduction of the specific poison we have a well-diffused thermometric history, which I need not repeat here. I ask your attention to the fact that but a very small part of the mortality in this disease is in any way due to the local lesion in the bowels, either through perforation, hemorrhage, or inflammation, etc., but we must look for the danger to our patients to approach from other directions.

Nothing is safer in medicine than to have a knowledge of the natural history of any given disease, so that, knowing the direction from which death will approach in making its attack upon the citadel of life, we may be forewarned and concentrate our forces for resistance.

I hold that the facts furnished by clinical observation in this disease prove that danger is to be anticipated in one way chiefly, after leaving out that small per cent already alluded to where death is due to local bowel lesion. In my judgment the prolonged elevation of temperature is the cause of the evil, and this gives us a valuable indication in the management of the disease. I have not much confidence in aborting or shortening typhoid fever by any known measures.

Having then a self-limited affection, whose course can not be cut short, we are shut up to methods of management rather than of cure. In perhaps ninety per cent of fatal cases death is due to asthenia, hence our aim should be to ascertain, if possible, the cause of the heart debility, and to manage the course of the disease so as to either obviate this or recover the patient from it when it has already occurred. As already stated, I think this asthenia is due in the large majority of cases almost always to the prolonged elevation of temperature. Other things being equal, we find the gravity of the case is in exact proportion to the range of the thermometer.

The evil effects of high temperature have been fully elaborated by Liebermeister, who has written the best article on typhoid fever known to me.

In this disease we have marked disturbance of nutrition, and as an effect particularly of the fever we have degeneration of tissue and especially of the muscle responsible for the circulation.

In the short time allotted me for this discussion I must be content to dismiss the consideration of danger from local lesion by the mere mention of the beneficial influence of ergotine in hemorrhage, and of turpentine in certain conditions of the ulcerated patches in the ileum in the third week of the disease.

I will limit my remarks to the means of preventing death by asthenia. Two factors are prominent in its production, failure of nutrition and fever. Indications are found then, first, for supporting the patient by a nutritious fluid diet; and for this purpose I know nothing better than milk at least partially digested by Fairchild's Extract of Pancreatine. The patient should have all that he can thoroughly appropriate, and of such food as leaves no crude material to pass down through the ileum. Any thing in the way of food, other in quantity or quality than so indicated, is an evil instead of good. I regard the measures instituted to cause the fever to run its course on a lower range of paramount importance. As we accomplish this, so we save disintegration of tissue, and avoid heart debility and likewise that well-known group of symptoms called typhoid, due no doubt to excessive metamorphosis and defective elimination.

Several different measures are in vogue for reducing temperature. I myself prize most highly the abstraction of heat by applications to the surface.

I would avoid shock by placing the patient in a tepid bath and then gradually adding cold water till the reduction is sufficient. This bath may be repeated as often as is necessary. Circumstances and conveniences will determine whether this shall be the method, or whether the pack or sponge bath shall be used. Sponging may be indulged in to almost any degree with benefit. Several remedies have been prescribed for their antipyretic influence in this disease, salicylate of soda, tincture digitalis, alcohol, and sulphate of quinine. After an experience of ten years with it, I am decidedly in favor of the quinine. I do not find an indiscriminate use of this remedy necessary in this disease. Some cases do not need it, and perhaps some may not tolerate it, but the latter class I have not met with.

Doctors are liable to deceive themselves in the use of this remedy for this indication. Remember what I said just now, that we had a self-limited disease, and that this remedy is not given with the view of shortening the course one single day. We are so much in the habit of giving quinine to prevent the recurrence of fever that we are not liable to appreciate its influence when it is only antipyretic.

In order to accomplish this reduction of temperature, so desirable, we must have regard to the method of administration. I have had physicians say to me, that they had failed in reducing the temperature by quinine, although they had given thirty to sixty grains in twenty-four hours. Upon inquiry I found they had given it in five to ten-grain doses every three or four hours. I think such men have failed because they have not given the remedy in the right manner in order to secure its antipyretic influence.

Sixty grains given in the above manner will not reduce the temperature as much as one half the quantity will if properly administered. For this purpose we should very implicitly follow the directions given by Liebermeister and others. Give all you intend to give at a single dose, and that in solution. If necessary, I prepare the stomach for it by a small dose of morphia, one half hour before. I assure you that I have never given such a dose of quinine, for such a purpose, when I have afterward regretted it. As a rule, after giving a dose ranging from twenty to forty grains, the fever is promptly lessened, the patient gets a better night's sleep, and is in all conditions made more comfortable. The pulse is slower and the mental condition is improved.

The fever, as a rule, will not be high enough to require repetition for forty-eight hours. It should be given at about 8 P.M. I begin this treatment when the fever reaches its height, about the end of the first week, and continue it during the second week and into the third till we begin to get the morning remissions natural to the disease. So, as a rule, from four to six such doses will be all that will be required in this line. The water-treatment goes in hand with this and is greatly adjuvant. By this joint means I have saved my patient from a vast amount of tissue waste. I have prepared him, or, I should say, preserved him for a better and more satisfactory convalescence.

In conclusion, I beg leave to ask your attention to the necessity of efficient elimination, especially on the part of the kidneys, in order to relieve the blood of the effete products of disintegration, especially in the third week. In my hands in many cases alcohol has proved to be of service. Fever is no contra-indication to its use; on the other hand, alcohol lessens tissue waste and lowers temperature in fevers.

It has served me to call out in full the forces in the heart while it is in debility, and no doubt you may tide over a difficulty in cases where, without it, you could not. May not it also secure the heart a better blood-supply for its own nourishment, and hence, as has been remarked by another, prove to be "oats as well as spur."

Remember, our task is management, not cure; we nourish and preserve rather than medicate.

Prof. Larrabee said:

In both papers just read, no less than in the remarks of my friend, Dr. Bailey, it would appear that temperature, as indicated by the fever-thermometer, is the great indication, and to this one point remedies and treatment are to be chiefly directed. Dr. Thompson concludes his paper with a beautiful illustration of a ship in a storm, and as I am fond myself of nautical metaphor, I will take up the figure where he has left it. I use the thermometor in fevers very much as the sailor throws the lead, "leaning on the weather shrouds." I would not like to be without it in approaching a crisis or departing from the shore-line of health; it marks the soundings, and the soundings are corroborated by the chart in the binnacle; no one throws the lead in mid ocean. The daily increase in temperature, the evening exacerbation, in spite of treatment, for the first three or four days are quite infallible; but in the second or third week all is irregular, and the markings of the thermometer are to be taken together with all other symptoms.

I prefer to speak of the *management* rather than the treatment of a disease which is admitted by all to pursue a definite course, and the tendency of which is to recovery. I have at other times and in other places taken such decided ground in this matter that some of the members here present know already my views upon the *management* of typhoid fever and simple continued fevers. I believe that in not a few instances the poor patient (if you will excuse the expression) is deprived of a "fair show for his white alley" by hypermedication, and that all cases are subjected to too much treatment. Nevertheless, there is not a disease known to us where so much can be done for the comfort and safety of the patient by correct sanitation and proper nursing. In the second paper read we have before us an array of figures denoting temperature and pulse, taken at least three times a day. We have little else than tests of temperature, in our local society meetings, as reports upon typhoid fever. I do not desire to lay any strictures upon the excellent paper before us; I only wish to criticise what I have termed the modern practice. It would be a relief in these reports to find some mention of the disease itself, of the tongue with its sordes, the skin with its dryness or relaxation; of the rash and its relation to crisis and exacerbation days or weeks; of the gurgling in the iliac fossa; of the subsultus tendinæ, etc. I regard a twitching tendon oftentimes as significant as a rising thermometer.

There is such a thing as carelessness, and there is such a thing as too much care (over attention); the former is far more frequent than the latter. It is oftentimes in the "wee sma' hours," when tired nurses sleep and fires burn low that the spark of life goes out. But over-watchfulness amounting to ignorance, in my judgment, killed a President. The mortality among fever patients in wards of hospitals is much larger than in private practice. To be aroused every hour to swallow, now a draught of beef-tea, next a bowl of egg-nogg, next a drink of milk, next to have a tablespoonful of strong brandy poured down the throat; then, besides this, the regular medicine for temperature deviation, etc.; then to take the temperature and pulse, if kept up for twenty-one days, becomes of itself a large factor to fatal exhaustion.

Another, and, in my judgment, very great error, and one prolific of bad results, is the persistence with which the poor, fever-tossed patient is urged to take food against his inclination. Every two hours a pint cup of milk, egg-nogg, or beef-tea, until gallons are introduced, seems to be a most unnecessary embarrassment to a system which my friend, Dr. Bailey, has just said, is burdened with the products of metamorphoses of tissue. The mental aberration, delirium, and other symptoms of serious import are, no doubt, in a measure due to retention of effete matter in the circulation. The urine is scanty and high-colored. Can kidneys be aided by injection of more food? Shall we introduce more nitrogenous waste? Dilution, plenty of water to drink, becomes here the treatment instead of repletion. I am no longer afraid of starvation in typhoid fever, but I am afraid of *over-feeding*. Nine tenths of all cases in hospital and private practice are *over-fed*. I have seen typhoid fever patients vomit large casts or molds of milk, and pass the same from the bowels as large as a Bologna sausage after much pain, straining, and a risk of fatal hemorrhage. Milk should always, if given at all, be pancreatized and peptonized, and even then is not always the best diet for fever patients.

Dr. Thompson speaks favorably of alcohol for reducing temperature. The sum of our knowledge upon this point is the fact that large doses of alcohol in disease will lessen temperature, and also that in many instances of blood-poisoning, its force expended in the system sustains life, or, rather, prevents death. Its use in typhoid fever should be limited, not so much to the reduction of temperature as to its necessity as a cerebral stimulant. And when so indicated as an arterial stimulant the high temperature present no longer, in my judgment, contra-indicates its use. It was formerly supposed that it added to the fever: this has been well proven to be a mistake. I can not, however, agree with Dr. Bailey in the tribute which he pays to alcohol, viz., that it is the "spur and the oats" together. This comprehensive expression may apply to digitalis and the congeneric drug, convallaria; but alcohol produces paresis of arterioles, by which more blood is brought to the surface, or skin, or cooling area of the body; this is not increasing but decreasing arterial tension, and weakening rather than strengthening the cardiac impulse.

Dr. Bailey advocates quinia in large doses, forty to sixty grains, for reduction of temperature in typhoid fever, after the plan laid down by Liebermeister. I have no doubt of the efficacy of large doses of quinine in controlling temperature; but if quinine is unnecessary in this disease for any other consideration, as I claim, it is certainly very objectionable in the face of other more simple and agreeable means, and the good possibly attained is more than counterbalanced by the evil effects upon the brain and nervous system, and muscular system also. There are other agents besides medicines which will reduce temperature. A blow on the head will reduce temperature. Many medicines act in the enormous doses named simply on the principle of *shock*, as the reaction and rising thermometer afterward show—small and frequently repeated doses of quinine, as Dr. Bailey tells us, fail to produce the required result. This shows that the brain and nervous system must be so profoundly affected by quinine as to prevent the reception of impressions before a marked fall in temperature occurs; and as soon as the quinine is eliminated, up goes the temperature again as high, if not higher, than before. It is well known that we can bring the fever temperature down to almost any desirable limit by the salicylates of soda, lime, etc., ten grains every hour, or twenty grains every two hours, are equal to a degree less temperature in the same space of time, but such treatment is open to the same objection: it is accomplished by shock, it depresses the heart to an equal extent, ruins the stomach for digesting food, and, moreover, produces no *pari passu* improvement in other disease symptoms. The disease ought to be taken into consideration along with temperature.

I am glad to hear Dr. Bailey speak of the tepid bath. I am a great advocate for the use of water externally, internally, and, I was about to say, eternally in fevers; but I mean warm water. I think some of us skipped the track a few years ago in adopting the cold and ice-water treatment; it was irrational. I do not, however, think, with Dr. Bailey, that the bath-tub is the best means of attaining the prolonged effect of water upon the skin. Often in the third week the patient is too weak to be moved about out of bed and in again. A plan, which I advocate in infants and children, I extend also to these cases, and it acts like a charm. Its effects are so continuous and it is so readily given in all places, the humblest abode furnishing all the materials as well as the palace, that it recommends itself on these considerations alone. My plan is to fold one or more sheets so as to correspond with the length of the patient's body from the neck to the toes. Have the patient stripped naked and these sheets folded out of steaming water and the patient snugly rolled up and rolled in a blanket on rubber cloth like a mummy; when this is done the sedative effect of water in the shape of warm vapor is felt by the irritated peripheral nerves; the capillaries are dilated; the patient almost always goes into a quiet, sleep-losing delirium, and from which he awakens refreshed. It may be renewed at the end of twelve hours or kept up continuously, as the temperature may indicate. In this way, with daily change of clothing, pure air, plenty of good water—and dilute muriatic acid added so as to be faintly perceptible in the water—I have carried typhoid-fever cases of more than ordinary severity through the entire course of the disease. And if the duration of the attack is not shortened, I have the satisfaction of knowing that my patient has had a comparatively pleasant journey, and will have a more rapid convalescence—less tedious and freer from relapses than those cases in which more heroic treatment is pursued.

The question is asked, if I do not use quinine at all in the treatment of typhoid fever; and I answer more decidedly, *no*, not if I know it to be such. I am on record, in a published work upon diagnosis by Dr. Wells, to the effect that I would use quinia as a valuable diagnostic agent, and this statement, quoted by the author from some remarks made several years since, I have no reason to change. It is quite impossible in our part of the country, where malarial diseases are more frequent than typhoid fever, to distinguish the symptoms sufficiently in the first few days to make a positive diagnosis. A few small doses of quinia, preceded as it always ought to be by an emetic or cathartic, or both, will suffice to break up a malarial attack.

If no permanent relief occurs from this treatment and the evening temperature continues to increase, and the patient gradually assumes the hebetude so peculiarly diagnostic, it is probable that we are dealing with typhoid fever, and the sooner we leave off the quinine the better it will be for the patient. I have no sort of patience with compound terms, such as typho-malarial fever, diphtheritic croup, and such like nonsense, invented to give cover to mistaken diagnosis. There is a specific fever called typhoid, and there is such a thing all over the world as malaria—they are distinct and separate poisons.

Of course I consider temperature important; but if the other means, and especially the warm wet pack and the fever coil be properly used, I have no fear that high temperature will be the door through which the life escapes in typhoid fever. I am not afraid of high temperature, so long as the skin circulation is good, the skin flushed with blood; but there is a condition of paleness with high temperature. which is a forerunner of evil, and is in all probability produced by the irritation of the capillaries by debris, as in Bright's disease of the kidneys. The warm pack, a few drops of tincture belladonna, are better here than quinine or even digitalis, to which Dr. Thompson alludes in his paper. Yet let me say that I am very fond of this drug (digitalis). It is the only reliable heart tonic, and for an irritable condition of that organ has been properly styled the opium of the heart. Its administration must be based upon a thorough knowledge of its physiological action. I have seen it do harm, and I have no doubt hasten death, in typhoid fever in the third week, where the heart muscle has been considerably weakened and attenuated. In full doses in such instances it is apt to produce cardiac eclampsia, a condition of systolic action once supposed to be cumulative action of the drug; but in one or two-minim doses, watching its effect upon radial arterial tension, it is not only safe but effective.

Dr. Yandell said in substance:

A discussion on typhoid fever at this time is especially interesting to me, because, besides the very able way in which the subject has been handled, it affords me an opportunity to compare the treatment of the disease as pursued to-day by our busiest men and that followed twenty-five years ago. I myself had typhoid fever twenty-five years ago, and was treated by that sagacious and eminent practitioner, the late Prof. Lewis Rogers, a name the mention of which will, I am sure, stand with every member of this Society as a guarantee that I had, during my illness, all that was best in that day in the way of treatment. I first thought my attack was malarial—it occurred in September—and I took forty grains of quinine, with the effect of increasing my headache and general discomfort. Dr. Rogers came, and, sharing my opinion, gave me yet sixty other grains of quinine, divided in three doses, to be taken at intervals of two hours. The fever went on. Rogers thought I stood a fair chance to die during the first week, from nausea. During the nine weeks succeeding, I was delirious. Those weeks remain to this day a total blank except in one particular, and that related to food. The recollection of my aversion to that is distinct. No other memory, during all that long period, survived. My nurse told me that I took food at no time without a remonstrance, that I not unfrequently flatly refused to have it, giving always as a reason that it was exceedingly distasteful to me.

I made the same objection to every kind of drink other than water. I got no medicine, but was required to take food—milk—at first every three hours, then every two hours. I had frozen champagne—frozen, because otherwise it nauseated me, at about the same intervals of time. Three weeks after the delirium subsided I stood on my feet for the first time. I have mentioned my own case in order that I might tell of my great aversion to food, and that I was absolutely required to take both it and wine throughout my entire attack.

I am just as sure that food was given in this case oftentimes to my hurt, as it was always given against my inclination. Yet this was the practice of the time. And I fear it is far too much the practice of the present day. Since Tanner's protracted fast I have been much less disposed than before to force food upon patients against their wishes. I have made some short fasts myself, in the hope of wearing out a rheumatism. My first attempt I continued for eleven days, taking in that time but three glasses of water a day. I felt no particular inconvenience from my abstinence. In the winter just past I fasted twenty-one days, also in a rheumatism, in which time I had not more than a quart of milk, which I took hot. I can not say that my disease was benefited in the least. But I was without appetite, was averse even to food, and if I got no good from fasting I at least escaped any of the inconveniences which might have ensued had I taken nourishment.

In the last year I have treated five cases of typhoid fever practically without food, that is, without food except when called for, or when delirium was present, and then only when it was not refused. One of these cases occurred last July, in the person of a young man. His case begun much as mine did. He got quinine, as I did. He had the same aversion to food that I had. He was not a milk-drinker when well—the suggestion of milk when sick was distasteful to him. Daily I asked him if he wished food, and daily he answered "No." He went seventeen days on two or three glasses of water each twenty-four hours. His bowels acted with some regularity. On the twelfth day he had a little diarrhea, which was checked by bismuth and chalk mixture. On the morning of the eighteenth day his pulse was somewhat weak, and I said, "You must have some food." He replied that he had dreamed the night before of eating a broiled partridge. Partridges not being in season, he got a chicken soup instead. A day or two after his appetite returned, and he made a good recovery. He went through four weeks of fever without a single unpleasant symptom. I spare you the details of the remaining four cases. The abstinence in none of these was so protracted, but food was given to none until it was acceptable, and all went through their attack with seemingly less trouble than those who were plied with food. When food is given, I agree with one of the speakers that milk peptonized by Fairchild's process is more digestible than plain milk. I have also found that the beef peptonoids of Reed & Carnrick are usually both an acceptable and easily assimilated food.

Touching the use of quinine in typhoid fever, Dr. Rogers and myself were thrown much together in 1865, when there was a great to-do, you may remember, about typho-malarial fever (the new fever, as it was then called). During that and the following year we made a great number of experiments in the endeavor to ascertain the true value of quinine in this disease. The results of our labors may be stated thus: At no time while the fever of typhoid or typho-malarial ran an even, steady course did quinine do any perceptible good. When the fever began to subside, or to show some disposition to become periodic, quinine was then of distinct and very great value. I confess always to a feeling of surprise when I hear gentlemen say they find no inconvenience from these enormous doses of quinine given to reduce temperature in this disease. My observation (except under the conditions named) has been almost the very reverse of this. Rogers gave me twenty grain-doses of quinine at intervals of two hours—that is, I got a dram of it within four hours—and yet words are poor to describe the increase in wretchedness which these large doses brought.

I remember to have seen a case, in consultation with the late Dr. Foree, in which the disease, in the person of a doctor, lasted twenty weeks. Now, if ever I knew a discerning and sagacious practitioner, it was Dr. Foree. Time and time again the question as to the propriety of quinine in the case we were attending was discussed, especially when the temperature went inordinately high; but we withheld the drug till the fever began to abate and grow somewhat periodic. When, one day, it fell to 100° in the forenoon, and then rose to 102° in the evening, Foree said, with great positiveness, I remember, "Now is the time for quinine." I gave ten grains every two hours until the patient had forty grains. I am aware that it has been said that this is not so good a way as to give the same quantity in two doses, or in half the time; but it reduced the temperature, nevertheless, and kept it reduced from twelve to eighteen hours. But it rose just as before, and it was not for days after that quinine seemed to have acquired the power to prevent a recurrence of the fever, and this, I think, was not until the fever was itself ready to go. Certainly not until it had assumed distinct periodicity. This, in brief, is the experience of Rogers and Foree. My own coincides with theirs.

Quinine accomplishes in typhoid fever just what it does in septicemia, for instance. Certainly, I think, no more. It unquestionably possesses the power to reduce temperature, just as salicylic acid does, and as some other drugs do; but the moment you withhold it the temperature goes back to where it was, and sometimes beyond that.

I am of those who do not see in the temperature alone the spirit and essence of typhoid fever. I have seen many a case of this disease, where the heat was but little exalted, perish miserably of hemorrhage; other cases, in which the thermometer never denoted the danger point, die of diarrhea, and yet others again, in which the fever was never a prominent feature, succumb to cerebral complications. I am also one of those who believe that there are other and better means—because less disturbing—more effective means, of reducing temperature than quinine, or any other drug, properly so called. Water, applied to the surface, in my hands is a far better antipyretic than any thing whatever given by the mouth. Water hot, water tepid, water of ordinary temperature, water cold, effects reduction of temperature in a much more uniform and less disturbing way than any drug does. My father called attention to the external use of water in fevers in a prize essay forty-four years ago, and he used water most extensively externally in the treatment of almost every class of fevers up to the very close of his life. I, too, influenced by his teachings and governed by my own experience, have trusted to the same agent in the management of malarial, typhoid, and scarlet fever. I was glad to hear one of the gentlemen say that he used hot water. As a rule, I prefer a wet sheet to a bath tub, and so, as a rule, I allow the patient to have the water brought to that temperature which is most grateful to him. In high temperatures following surgical operations, I can not believe that I am mistaken when I declare that I get more good from the external use of water than I do even from the largest doses of quinine.

The three points I have endeavored to present in my remarks are, first, that food is by no means so important as it is usually held to be in the management of typhoid fever, and may be dispensed with to advantage far longer than is commonly believed; next, that quinine possesses no curative powers whatever in this disease, and that the good it does is sometimes, at least, purchased at the expense of the convenience of the patient; and, finally, that water, properly used, is the best antipyretic known.

Prof. Holland, of Louisville, remarked:

The antipyretic treatment of typhoid fever was such a departure from the expectant plan that it required the sanction of great authority to induce any one to try it. It was founded upon the observation of the direct pathological results of continued high temperature, and came to us fortified by the statistics of the German hospitals where, in over six thousand cases, there was an average mortality of only five per cent as against twenty per cent by the old expectant plan. In estimating the value of antipyretics these remarkable figures count for a good deal more than the experience of one man in private practice upon a few cases. The chances of coming to an erroneous conclusion are lessened in proportion to the number of instances examined.

My personal experience inclines me to favor the use of antipyretics in those cases in which prolonged pyrexia of a high grade threatens to seriously affect the patient's chances.

In the City Hospital, during my term of service, if the temperature on the evening of the seventh or eighth day rises above 103° Fahrenheit, I look for grave results from the heat factor and endeavor systematically to reduce these to a minimum.

If the stomach bears it well, I give two fifteen-grain doses of quinine between six and seven o'clock A. M. This will usually keep the temperature down for twenty-four to forty-eight hours. When it rises to 103° in the evening again, the quinine is given the next morning as before. Sponging with tepid water is also employed in the afternoon.

With respect to diet I concur with Dr. Yandell in the opinion that

Dr. Tanner's fast helped to rob abstinence of some of its terrors. Patients are not benefited by foods forced on them in the way insisted on by some. As much milk or gruel as the patient takes kindly at proper intervals may be given. When he turns away from such foods, cold barley water or thin chicken-water may be offered as beverages to slake thirst.

These principles of treatment, modified to suit individual needs or special symptoms as they arise, have yielded good results in my practice. As for the big doses of quinine, they may have such drawbacks as attend the use of all drugs of positive value. Even in malarial fevers quinine is not an unmixed good. Fullness of the head, ringing of the ears, partial deafness, nervous agitation, and weakness are expected and not considered of any weight as an offset to the antiperiodic property. So with quinine in antipyretic doses in typhoid fever. The unpleasant effects are more than compensated by the lower temperature, the slower pulse, the easier respiration, the cleaner tongue, the clearer brain, and the more rapid convalescence. All these are of value even if the disease itself is not aborted, and this effect is not claimed for it by any one.

Dr. J. M. Harwood, of Shelbyville, said:

My experience with antipyretic doses of quinine in typhoid fever where the temperature runs high has been most satisfactory. I have never had cause to regret giving twenty-five to thirty-five grains at one time, and I have seldom found it necessary to repeat it in less than forty-eight hours. The patients almost invariably rest better under its influence. To make a patient *supremely unhappy*, give two or three ten-grain doses two to four hours apart.

Prof. J. W. Holland delivered a popular address on "The Cause of Consumption." Our space permits us to give but a brief abstract of his remarks:

There are doctors here who no doubt will shrug their shoulders at the word *cause*, but I now employ the term in the singular for reasons which will appear. To the old stock of knowledge concerning this disease there has recently been added a fact of great significance. This fact was discovered about two years ago, and in that short space of time it has received almost universal acceptance. It is interesting to observe the influence of this new fact upon what we previously knew of the disease which it concerns.

Among the conditions long supposed to affect the course and fatality of the disease, climate has held a prominent place. It was thought to have much to do with consumption; that is an error. In Europe, where the countries have well-organized administrations and where the fatality statistics have been kept with the most sedulous care, the mortality lists show the disease to be about equally fatal in the tropics with that which prevails in the north. About one sixth of all deaths are due to consumption; about one third of all people who die of disease die of consumption. Altitude, however, has much to do with the rate of mortality from this disease. It is found that as you ascend the mortality grows less and less, until a point is reached where consumption is comparatively unknown. Is this due to climate? No. Because if you go north, where the isothermal line descends until it reaches the surface of the earth, there you will find consumption prevailing. It is said to be due to the greater purity of the air and its attenuation. Occupation has something to do with the mortality from the disease. Those who live indoors a greater part of their lives in an atmosphere tainted by respiration are more likely to suffer from the disease. Age and sex both exert a modifying influence upon it; the years from fifteen to forty-five are attended by the greatest mortality, and more women die of it than men.

There is no more common observation than that "consumption runs in a family," or in a side of a family. Some other features have been noted, but the significance of them has been disputed. Dr. Rush, in his writings, says the disease was unknown among the American Indians, and it was not mentioned in their legends and traditions until a comparatively recent period. Now they die as freely as the whites. Livingstone and Stanley state that the negroes of Central Africa do not have the disease.

There is one other fact which appears to have an extraordinary significance beyond all these others. In 1874 three Greek physicians inoculated a man with the disease. They had this rare opportunity. He was doomed to die, and they inoculated him with the sputum from diseased lungs. Great care was taken to eliminate all sources of doubt. There was no history of family susceptibility. About the third week after the inoculation the signs of consumption began to manifest themselves in his body. At the post-mortem examination tubercles were found in the apex of each lung, and some on the free surface of the liver.

These are remarkable facts, and they are capable of two interpretations. Some will say that when the white man came among the Indians, he brought his firewater and his other methods of dissipation, and his system underwent the same deterioration which renders the white susceptible. Others may say, with Dr. Formad, of Philadelphia, in reference to the Greek experiment, "The man was half dead anyhow." But after all is said, here is a disease of definite character, prevailing in all parts of the world, always the same, operating uniformly through all the varied conditions I have mentioned, it would seem reasonable to refer a constant effect to one unvarying cause, and all these others should then be regarded in the light of predisposing. The lungs of a consumptive always contain what we call tubercles. When these little tubercles are examined under the microscope, after having passed through certain manipulations, they are found to always possess one character; they are found to be filled with very minute rod-like bodies, which have been called the bacillus tuberculosis. Previous to two years ago it was difficult to define a tubercle in scientific terms. Now, the element which above all others distinguishes the tubercle is the presence of these little rod-like bodies. Let us look into these a little further—they are called the bacilli of tubercle. A young German doctor by the name of Koch began the study of the disease known as splenic fever, and found by a series of masterly experiments that it was in all cases due to a little rod-shaped body, which is represented here in this map. This little body has the power of reproducing itself by division indefinitely, when it is placed upon a fertile soil. It is not a bug; I state this because the detractors of Dr. Koch's theory have designated it "a bug theory." It is a plant which has the power of motion, and of indefinite multiplication. It has two effects, one is localized; but when it gains entrance to the general circulation of the blood it rapidly produces another set of phenomena. It can be raised in crops. Koch raised hundreds of crops, and every time that it developed he put it into an animal, and every time he put it into an animal susceptible to the disease that animal died. I mention that to show you the beginning of the man's career. He was invited to Berlin, when, after a series of discoveries, perhaps less important, he turned his attention at last to consumption. He worked at this subject for five years, and after he had settled it conclusively he announced it to the world. Since then the subject has been thoroughly discussed, and it has borne the fiercest light of criticism. These bodies found in the expectoration of consumptives, when cultivated in groups, were found to grow more potent and reproductive the further they were separated from the original germ, but in every instance they produced like phenomena.

How does this affect the old view? It would appear to satisfy the conditions I mentioned a while ago. It is important to state now that there are degrees of the power of communication. The parable of the sower illustrates what I would express. "Some of the seed fall by the wayside, some in the stony ground, whilst others again fall upon fertile soil and reproduce themselves many fold."

Dr. Holland continued his remarks until he developed the theory of the contagiousness of consumption, and emphasized the necessity of care on the part of people who suspect that they possess this fertile soil in placing themselves under circumstances where they are likely to become the recipients of this germ. He further showed why it was important that persons whose family history was suspicious should live out of doors as much as possible, avoid crowded cities and all places where the air is impure and probably contaminated, etc.

Andrew Seargent, M. D., of Hopkinsville, read the report on "Ethics," from which we abstract the following:

No question has been productive of more discussion during the past year than that of ethics. The adoption by the New York State Medical Society of a code of ethics in conflict with that of the American Medical Association has done much to draw the discussion away from the principle involved, and has made it rather a test of party or fellowship.

At the last meeting of the American Medical Association, the action of the New York State Society was almost unanimously condemned, and the position taken at St. Paul and Cleveland has been indorsed by a large majority of the profession in Kentucky.

In the State of New York there is a large class of men in the regular profession who believe that in a science at once so uncertain and so progressive as medicine it is neither necessary or wise to control the conduct of any physician when human suffering is to be relieved. They believe that members of the medical profession should hold themselves ever ready to relieve a suffering public, without any limitation in the choice of remedies, or in the mode of their administration, except such as are imposed by an enlightened judgment and high regard for the interest of the sick.

To say that a desire to consult with homeopathists, and thus gain a few paltry dollars, produced the changes in the New York code, is to charge dishonesty and insincerity against a most numerous, intelligent, and respectable body of medical men. They believe that the prohibitory clause of the old code was adopted, not for the cure of disease and the relief of suffering so much as to proscribe homeopathy, which was then in its infancy in this country, and claim the clause to be a failure. They believe that while they have been practicing the best system of medicine known, homeopathy has largely increased. Is it, then, astonishing that a large number of the regular profession should desire a change of tactics?

For myself, I do not favor the abolition of all codes because I have lost faith in the principles of the old code, but because the latter has failed to accomplish the purposes for which it was framed. Many will say that the principles embodied in the old code are too good to be laid aside. I answer that those principles will be just as binding on the conscience as ever. The principles of the old code will endure just as surely as knowledge and truth will endure.

The ideal code, presumably, would be one not of restraint, but rather one of guidance; simply a set of rules by which the conduct of physicians toward each other in the delicate relations of practice might be indicated, and which could be used for reference in doubtful cases. But better than any code is the unwritten and indefinable law which always governs the gentleman.

If physicians were absolved from even the ordinary obligations of gentlemen, and only required to observe the code of ethics of the American Medical Association, the profession of medicine would soon, I believe, cease to be the honorable calling that it is.

Yet I am not in favor of the New York code as it now stands. I regard it as a sort of compromise with half-acknowledged fraud. It abandons the higher law of the old code, and steps down to accept questionable legal enactments as authoritative. It recognizes the legally-qualified practitioner as our equal, without regard to his character.

The abolition of all codes is to my mind certainly an honorable path to harmony. It is at least the only "olive-branch" that we can now afford to extend to the irregulars. With no code, we offer no other antagonism than that of true merit, and sooner or later truth must prevail over error.

Meanwhile, as practicing physicians let us do all in our power to uphold the banner of truth and science. Let us leave therapeutic dogmas to unworthy rivals, and strive for whatever is good in the field of rational medicine, accepting from the hand of Experience such fruit as she may pluck from the "Tree of Knowledge," and give this to our patients as the best we can offer them so long as the "Tree of Life" shall remain inaccessible to human approach.

Clinic of the Month.

THE MORE RECENT IMPROVEMENTS IN LITHOTRITY.—The following is an abstract of a lecture delivered at the Royal College of Surgeons by Sir Henry Thompson :

" Five years of experience in lithotrity, completed at a single sitting, enables me to testify as fully concerning its capabilities, perhaps, as any other operator. It has been only partially tested at present on the continent ; entertained very cautiously at Paris ; but received with gradually increasing favor at Vienna, where it is now the rule ; but it is not in either place accepted for the largest calculi, and a cutting operation is preferred for those hard stones which weigh one ounce and a half and upward in size. I propose, first, briefly to describe that proceeding which has appeared to me the most desirable in order to achieve successful lithotrity at a single sitting.

" In the first place, in respect of all instruments, we must recognize the importance of not inflicting any needless injury on the urethra and bladder, and should, therefore, always select the smallest lithotrites and evacuators which possess strength and capability adequate to crush and remove the individual calculus to be dealt with. And inasmuch as the great majority of calculi are small when first found by the surgeon, undue stretching of the natural caliber of the urethra is unnecessary for their removal, since no instrument need be used which exceeds the limit of that caliber. It is only when dealing with calculi of exceptional size that instruments which distend the urethra to a considerable degree are to be employed.

" Secondly, in dealing with a calculus of any size, but especially when large, it is important to employ instruments which are simple in construction and not easily liable to be deranged in action when employed in the bladder. The presence of débris in quantity, mixed with viscid mucus, perhaps with some coagulating blood, has to be reckoned on in circumstances which demand prolonged manipulation; and mechanical arrangements which work admirably in experiment with limpid fluids outside the bladder are not unlikely to fail when brought to the test of actual service. Simplicity in the construction of instruments is, therefore, to be attained if possible.

"Let me suppose that the presence of a calculus has been determined, by sounding, in the bladder of an elderly male. It is almost certain that the note obtained and the resistance felt in making contact generally suffice also to convey an idea, approximately accurate, regarding the size and nature of the stone. As a rule, it is not so necessary now as it formerly was to make an exact diagnosis in relation to those particulars. When it was desirable to limit the application of lithotrity to calculi of, say one inch and a half diameter, it was important to ascertain by some easily-managed method of measuring, what were their dimensions in every case. But now that the scope of lithotrity is considerably increased, all that is requisite to be learned is, whether the stone is an exceptionally large and hard one, and whether any unnatural narrowing of the canal is present; and both of these points are almost sufficiently determined by an ordinary sounding in practiced hands. At all events it is unnecessary to make any further examination for the purpose of diagnosis until the patient has been placed under the influence of an anesthetic upon the operating-table, the surgeon having full liberty to exercise his judgment and act as circumstances demand.

"Invariably, as soon as the patient is thus prepared for operation, I pass a full-sized conical steel-plated sound—say about No. 15 (English), in order to determine that most important point of urethral caliber before touching the stone. If the urethra is healthy, and of course in the very great majority of cases it is so, the instrument has passed with perfect ease, and may probably be followed by No. 16 or 17 in an elderly adult, by which term I mean a man of sixty years and upward. I am sure the urethra is more capacious in such patients than in those whose age is between thirty and fifty years. In these latter the urethra often resents any active distension, and the bladder also more readily becomes inflamed than in older patients. With a urethra admitting the easy passing of a No. 16 almost any thing is possible, and suffices for almost any calculus; but if I am dealing with one which weighs, in my judgment, about two ounces and more, I am glad to use larger sizes, and No. 18 I have never found it necessary to exceed. But if the stone is known to be small, No. 14 amply suffices, and there can be no reason for going beyond it. This is the size which was mostly used with the original instrument of Clover in 1866, and for all ordinary purposes answers admirably.

"The lithotrite is next introduced. With small and medium-sized stones, a light instrument of the half-fenestrated pattern—that is, the lower portion of the male blade penetrating the female blade, which prevents the possibility of blocking by débris, while the upper portion is flat and crushes the stone into small fragments—is, I think, the best. This mode of construction is applicable for a wide range of size in calculus, answering for any one of uric acid below about an inch and a half in length. To accomplish the first fracture of such a one, or to crush into fragments a larger calculus, a fully fenestrated lithotrite is better. There are some old forms of blade which have been in use for fifty years, which can not, I think, be excelled; so numerous are the patterns that have been employed, that it is difficult now to imagine a new design.

"To proceed: supposing that a considerable quantity of débris has been made, the calculus being large, it is advisable to withdraw the lithotrite, to introduce an evacuating-sound and attach the aspirator, so as to withdraw the débris already made before crushing more. When this is removed the same or a lighter instrument may crush the fragments into débris, before again using the evacuator. By this time, probably, the remaining portion is not considerable, and another introduction of the lithotrite, followed by another aspiration, very likely empties the bladder. If, however, a fragment or two are heard and felt to strike the end of the evacuator, yet do not pass through it, they are probably just too large to issue, and require another crushing before the task is completed. There is certainly now no difficulty in removing any last fragment from the bladder, the more powerful aspirators emptying the cavity so efficiently that no other instrument is necessary for the purpose; while by no sound is the last fragment found so well as by the evacuating catheter, against which contact of the fragment is certain to be felt or heard, through the action of the outrushing current of water.

"In regard to aspirators, the original instrument of Clover, simple in the extreme, is a very good instrument, and requires only some modification to be as efficient as most of the modern ones. For my own aspirator I have provided a tap with funnel-shaped opening to the upper part of the india-rubber ball, by which to fill it and to remove air accidentally introduced, which offers a decided advantage. Last year I attached to the end of the evacuator, in the interior of the glass receiver, a light wire valve, which, while it admits any fragments to enter, renders their escape impossible; its action meantime being always visible to the operator.

"After the operation the patient remains in bed, and rarely requires any special management, except sometimes that which a simple traumatic cystitis demands—namely, absolute rest in bed; occasionally the urine neutralized by potash; hot hip baths; mild diet, and watchful care that chronic retention of urine does not occur, or is not permitted to continue unrelieved; avoiding, on the other hand, undue or unnecessary interference by means of catheters. But of all the agents for rapidly removing subacute or chronic cystitis after lithotrity, nothing equals mild injections of nitrate of silver, the effect of which is sometimes almost instantaneous. I use only half a grain of the salt in four ounces of warm water at first, gradually increasing to a solution three times that strength, beyond which it is rarely necessary to go. Usually one application a day, sometimes two, will, in the course of three or four days, remove the painful symptom and produce clear and healthy urine.

"My own experience of the system of treating all calculi but the very largest by a single sitting of lithotrity dates from shortly before Christmas, 1878; the first example being a case which I saw with Sir Spencer Wells, who was present at the operation. Since that time I have adopted the system of completing the operation at a single sitting for every case in which lithotrity appeared to be possible, with two exceptions only, to be described immediately. The total number of adult male patients upon whom I have operated during the period referred to, a term of rather more than five years, is two hundred and eleven. Of these, fifteen have been by lithotomy, and of course forming the largest and worst cases, with seven deaths. There remain, therefore, one hundred and ninety-six cases treated by lithotrity. One of these was a Portuguese gentleman, to whom Mr. Clover thought it prudent to administer chloroform only for a very limited time. He had five sittings to remove a stone weighing no less than seven hundred and eighty-seven grains, and made a good recovery. The other exception was that of a large oxalate of lime calculus, which at that time I preferred to crush in four sittings. The débris weighs six hundred and forty grains. He is now perfectly well. Every one of the remaining cases, one hundred and ninety-four in number, has been treated at a single sitting, making a total of one hundred and ninety-six cases of lithotrity at a single sitting, with ten deaths, or just five per cent. Total of two hundred and eleven cases of adults by the two operations, with seventeen deaths, or eight per cent. The mean age of these patients was over sixty years. And this is a result which hitherto has, I need hardly say, not been approached by any other mode of treating calculus in the adult. This subject, however, will be illustrated more fully in the succeeding lecture, when I shall present the results of my entire series, embracing upward of eight hundred cases by the two operations.

"I have crushed several stones of uric acid, and one of oxalate of lime, considerably upward of an ounce in weight. The largest uric-acid calculus I removed at a single sitting weighed two ounces and three quarters, and occupied me seventy minutes. The patient was seventy years of age, and made a capital recovery. I can not speak too highly of the results thus attained. Indeed, nothing need be added to the figures I have adduced above, which exceeded any expectation I could have previously formed as to the success of operating on men upward of sixty years of age, with stones of all sizes. In conclusion, I think we must admit that the operation of lithotrity, at a single sitting, bids fair to supersede lithotomy for the adult calculous patient in all cases except those in which the stone is of rare and exceptional size."

ACTION OF DRUGS ON SECRETION OF MILK.—In observations recently made by M. Strumpf of the milk of goats and of the human female iodide of potassium was found to lead to a marked fall in the quantity of the fluid secreted; the proportion of protein and saccharine principles was increased while the proportion of fat was diminished. The quantity of iodine secreted was very small, so that the notion that iodide of potassium can be administered to children by way of their nurse is not sustained. Alcohol increased the richness of milk in fats, while the proportion of albuminoids and carbo-hydrates was not modified. Unadulterated alcohol was not detected in the milk. Neither alcohol, morphia, nor the preparations of lead had any influence on the quantity of the secretion. Salicylic acid seemed to excite secretion a little; pilocarpin exercised no effect in this direction. The richness of the milk in sugar was increased by salicylic acid, which passes out of the milk secretion in greater quantities in the human female than in the herbivora. Traces of lead were also recognizable in the milk of those subjects who were ingesting the preparations of lead. (The Druggists Circular.)

CIMICIFUGA IN EPILEPTIFORM NIGHTMARE.—Dr. Small reports a case almost identical with one published recently in the report of Prof. H. C. Wood's clinic. The disease was epileptiform nightmare, and was cured by half a teaspoonful of powdered cimicifuga racemosa administered at bedtime. The paroxysms at once ceased, and there had been no return in a lengthy period of observation. The patient also was ordered to partake of only a light supper each night. (Medical Times.)

[When it may be asked, was it the drug or the abstinence? Ed. A. P.]

Gun-shot Wound of the Stomach—Successful Laparotomy.—Professor Kocher, of Berne, has recently operated with success on a case of gun-shot wound of the stomach. A boy, aged fourteen, was admitted into hospital half an hour after having received a wound in the region of the stomach, from a pistol-shot aimed at him from a distance of about five paces. He was pale, and complained of abdominal pain ; the abdomen was swollen, and distinctly dull on percussion inferiorly. Pressure on the abdomen caused pain. A quarter of an hour later, hiccough, severe epigastric pain, vomiting, pallor, and symptoms of collapse came on. There was tympanitic resonance from the ensiform cartilage to the umbilicus, with complete dullness from the navel downward and in the flanks ; the lightest percussion caused severe pain. Three hours after the injury laparatomy was performed. On opening the abdominal cavity in the region of the navel, a great quantity of dark blood escaped. The bullet-wound was discovered with comparative ease ; it was situated on the anterior surface of the stomach, toward the greater curvature in the direction of the fundus. The wound was circular, with sharp edges, and about half an inch in diameter. The bullet could not be found, nor was there any aperture of exit. The edges of the wound were united, first with two catgut ligatures, like an ordinary wound, and then a continuous silk suture was applied for the distance of about an inch, so as to invert the serous coat around the wound. Recovery was retarded by an abscess which formed in the track of the sutures in the abdominal wound. Professor Kocher declares that, considering the impossibility of recovery in cases of gun-shot wound of the stomach when active measures are not taken, it is the duty of the surgeon to perform laparotomy whenever an injury of that kind is suspected. He publishes several other recent cases of operations on the stomach. Out of three cases of resection of the pylorus, one recovered; a case of gastro-enterostomy, for cancer of the stomach, terminated fatally; one case recovered where the stomach of an agricultural laborer was opened for removal of the end of a coin-catcher, which had broken off during an attempt to extract a large tin nail which the patient had swallowed. The nail itself could not be found. Professor Kocher has also recently performed three gastrostomies for the relief of cancerous stricture of the esophagus. One of the patients died within twelve hours, from collapse; the second died on the third day with septic symptoms. The third recovered, left the hospital, and died suddenly two months after his discharge, apparently from an apoplectic stroke. (British Medical Journal.)

EXTIRPATION OF THE LARYNX AND THYROID GLAND.—Dr. Novaro performed this operation in Turin, on account of epithelioma involving the larynx, thyroid body, and a part of the wall of the pharynx, the latter being also excised. The patient died of pneumonia a month after the operation. (*Gaz. degli Ospitali.*)

Notes and Queries.

Kentucky State Medical Society.—The annual meeting of this Society, which occurred at Bowling Green in June, was a good meeting. There have been meetings more numerously attended, but the workers of the Society were present in considerable numbers. The papers read were, with few exceptions, not over-long, while the discussion they elicited was general and spirited. It brought out much individual bedside experience, the only experience which finds a ready ear nowadays. The rehash of well-known opinions and quotations from the horn-books are received with rapidly diminishing interest, while the demand for the daily observation and clinical experience of the practitioner is steadily on the increase. "The old order changeth." The time is not far distant when pointed discussion, brief narrative of bedside experience, accurate statement of individual observation and a brisk interchange of work and opinions will supersede the tiresome essays of yore. And when that time comes we will all look forward to the meetings of our societies as to seasons of refreshing pleasure.

Wê give up a very large part of the present number of the Practitioner to the scientific proceedings of the Kentucky Society. The next meeting of the Society will be held at Crab Orchard.

The following officers were elected: President, Dr. Pinckney Thompson, of Henderson; Senior Vice-President, Dr. O. D. Todd, of Eminence; Junior Vice-President, Dr. L. S. McMurtry, of Danville; Secretary, Dr. S. M. Letcher, of Richmond; Assistant Secretary, Dr. F. Dunlap, of Danville; Treasurer, Dr. Edward Alcorn, of Hustonville; Board of Censors, Dr. Dudley S. Reynolds, of Louisville, chairman; Dr. James H. Letcher, of Henderson, secretary; Dr. A. M. Seargent, of Hopkinsville; Dr.

R. F. Floyd, of Lebanon; Dr. J. M. Harwood, of Shelbyville; Dr. R. C. McCord, of Lebanon.

PROF. JOHN A. OCTERLONY, M. D.—When Dr. Parvin removed to Philadelphia Dr. Octerlony succeeded to his position as one of the editors of THE AMERICAN PRACTITIONER. Our readers can bear testimony to the able manner in which he discharged the duties of the place. But the demands of a large practice added to the work incident to the chair he holds in the University of Louisville have obliged him to dissolve his connection with the journal. His pen, however, will continue to be used in its service. Books for review and communications in his particular line of work may be sent directly to his address, Fourth Avenue, Louisville, Ky.

THE ATLANTA MEDICAL AND SURGICAL JOURNAL.—This sterling publication comes to us in a new and handsome dress, and full of interesting matter. Its founder, Professor W. F. Westmoreland, after having withdrawn for some years from its editorial charge, has again assumed his place at the helm, having, as his associates Dr. H. V. M. Miller and Dr. James A. Gray. The Atlanta Journal is one of the best of our many exchanges, and we gladly welcome the return of its editor-in-chief, Dr. Westmoreland, to a position which he adorned for so many years.

THE TRAINING OF A MEDICINE-MAN.—The medicine-man among the Indians of French Guiana, who is called the *piaye*, is priest, doctor, wizard, and mountebank, chiefly the last, all in one. He prepares himself for his office by going through a course of special training, full of terrible experiences, to which he submits willingly for the sake of the advantages he expects to gain. The candidate, who is supposed to have had some kind of a call to the office, must obligate himself to submit, without flinching, to all the processes of discipline that are to be imposed upon him. Except for a little instruction in the concoction of poisons, the discipline has no reference to the medical art. For six months he is put upon a diet of manioc, which he must feed himself with his feet, using his hands only to guide his feet to his mouth; then he is allowed dried fish, to be taken in the same way, and tobacco, of which he must swallow the juice. Having survived this for a year, he is "examined" by being held under water until he is almost strangled, and then made immediately to walk over red-hot coals, deliberately. Another year of the former regimen is given him to prepare for his second examination, when he is tied up in a bag full of red ants, previously well shaken to a pitch of savage excitement. He is next treated to a most ingeniously devised application of wasp-stings, and to a trial of snake-bites, against which he is permitted to fortify himself with antidotes. He may also be hung to a flexible rod by hooks stuck in his ribs, or by his thumbs and toes, and kept awake for a week at a time. After this course, he is permitted to assist his master by beating the drum around the sick man's hammock, and howling to drive away the evil spirits. His final trial is the drinking of a decoction of carrion and tobacco-juice, after which he is regarded as fully qualified to work upon the fears of the tribe, and extort from them all the service and tithes and tribute, and levy all the black-mail his victims can be forced to pay. As for medical treatment, there is none of it, not even the herb-doctoring; and this constitutes the chief advantage of the system. (Popular Science Monthly.)

WHY WE WALK IN CIRCLES.—The reason that, when lost or not able to see, we walk in a circle, is still undetermined. Mr. George H. Darwin believes that it is because we are right or left legged, our "leggedness" being generally the converse of our "handedness," and that therefore right-handed men, being left-legged, are most apt to deviate to the right, and left-handed men to the left. Himself and Mr. Galton and others, making personal experiments in walking blindfolded, found themselves describing circles not more than fifty yards in diameter, to the right. Of eight school-boys, six, who were totally right-handed, strode longer from left to right than from right to left; hopped on the left leg, and rose in jumping from that leg; one boy pursued the opposite course; and the last walked irregularly, with no average difference between his strides. Walking on a match for straightness, the left-legged boys all diverged to the right, the seventh boy to the left; the eighth won the prize. Measurements of Mr. Darwin's own stride, and of the strides of his friends, showed the same connection between divergence and comparative length of stride. Mr. Thomas Hawksley believes that the reason for the divergence is to be found in differences in the length of the legs, not enough to affect the visible step, but sufficient to reveal itself in a considerable walk. (Popular Science Monthly.)

THE ITALIAN MEDICAL REVIVAL.—An interesting account is given by the Lancet of the present and rapid growth of medical science in Italy. Two new medical journals have just been started, which makes the total number of Italian medical journals fifty-four. Twelve of these are published in Naples, and ten in Milan. Milan is now a great publishing center. There are 1,200 students at the University at Naples, and the other universities at Turin, Pavia, and Padua are flourishing. The number of original workers is already considerable, and the names of Bizzozero, Semmola, Bottini Bufalini, and Crudeli are familiar to American readers. It seems likely that the Italian school will revive the fame of its older days.

INSANITY AS A DEFENSE FOR CRIME.—G. B. Corkhill (Medico-Legal Journal), in an address before the New York Medico-Legal Society on "Insanity as a Defense for Crime," favors the plan, now adopted in Wisconsin, of having the special plea of insanity tried by a jury drawn for the purpose before the trial for the crime charged. This mainly on the ground that the prisoner, acquitted on the plea of insanity, might be found soon after "cured" or "harmless," and again turned loose on society;

while, if found insane by the special jury (though G. B. C. does not mention this part of the plan), the law should provide that he be guarded and restrained as a criminal lunatic, and discharged only after the closest examination.

Excision of the Patella.—Mr. Dodd reports, in the Lancet, an example of excision of the patella for caries, in which the joint was freely opened, and recovery ensued with a movable articulation. Instead of being the first recorded case of excision of the patella with preservation of the functions of the joint, as Mr. Dodd thinks, Dr. O. B. Knode, of St. Joseph, Missouri, removed the bone for necrosis, with a similar result, and full details of the case may be found in the North American Medico-Chirurgical Review.

Dr. Thomas J. Griffiths.—The death of this gentleman, which occurred a few weeks ago, will be deplored by a very large circle of friends. Dr. Griffiths was a well-known character in Louisville. He was a strikingly active and useful man. As a practitioner of medicine he was quick, judicious, discerning and industrious. As a man, he was independent, conscientious, and brave. As a friend, he was true as steel. He leaves a wife and one son, himself a physician, who gives promise of great usefulness.

Trephining for a Bullet.—An interesting surgical demonstration was given by Dr. William F. Fluhrer recently in the amphitheater of Bellevue Hospital, a patient being shown upon whom Dr. Fluhrer had performed successfully the operation of removing a pistol-ball from the brain through a counter-opening in the skull.

A distinguished chemist once remarked to Sir William Jenner, "Do not forget that a pint of milk contains as much solid animal matter as a full-sized mutton-chop."

The September number of the American Practitioner will contain a very large part of the scientific work done at the meeting of the Indiana State Medical Society, at Indianapolis, Ind.

The American Practitioner.

SEPTEMBER, 1884.

Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Communications.

A QUESTION IN STATE MEDICINE.*

BY S. E. MUNFORD, M. D.

One of the expressed objects of this association is the "fostering of friendly relations among its members," and it is a purpose eminently worthy of attainment. A proper animating spirit is necessary to the success of co-operative efforts for the advancement of the interests of the profession. But the cultivation of social amenities is not the prime object of our annual convocations. Were it so, it would be a question whether our meetings were worth the time they require and the material cost they occasion. The convivial idea is, happily, a thing of the past in our history, and if there is not work done which shall send the members away with new ideas, with quickened impulse, and renewed zeal for the daily work, and which shall add something to the science of medicine and the general interest of the entire profession, the organic functions of the Society have been used amiss.

How artfully and earnestly many who are present on this occasion have petitioned for a temporary release from clients;

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*President's Address, read before the annual meeting of the Indiana State Medical Society, June, 1884.

and, having secured an absence thus, now find themselves in a state of unhappy duality—bodily here, but in mental anxiousness elsewhere. No seductive mileage or tempting per diem have drawn you hither. Business and its emoluments, home and its duties have been subordinated for the time to the interests of the profession. Let us hope that the hours of this meeting shall be properly and judiciously occupied, and that we shall be able to maintain the ascending scale of the past history of the Society.

In looking through the literature of this association and that of similar organizations, one will be struck with the prominence given to questions which relate to the public health. This, in a measure, is a new inspiration. Sanitary rules are as old as the history of man, but the science of hygiene is a new creature. It was born of empiricism, and practical hygiene rested on no surer foundation than that of conjecture and observation until within a comparatively recent period. Two hundred years ago the death-rate in London was eighty per one thousand ; now it is less than one fourth that number. A century ago, ships of the English fleet were almost driven from the seas by the ravages of scurvy ; prisons and barracks were decimated by typhus, and smallpox, unhindered by prophylaxis, claimed large tribute of every nation on the earth. The use of fruits and vegetables was found to mitigate the waste by scurvy ; foul air was discovered as a factor in the causation of typhus, and the observations of the simple country folk of Gloucestershire gave the world vaccinia.

The restoration of man to the " health and soundness which he has lost" is no longer the quest of alchemy. These and other empirical conquests against the ravages of disease aided in the formulation of a science, whose applied laws render possible the extinction of certain contagious diseases, and whose achievements in the future will result, doubtless, in a material increase in the tenure of human life. Hygiene, though justly called a science, is not such apart from that which underlies medicine. It has no laws and exercises no functions which have not been evolved or invoked by medical labor.

Efforts for the prevention of disease and measures to secure a more efficient and intelligent treatment of the ailments of mankind exercise the dominant energies of the profession in this day. Its labors to attain these are a free-will offering to mankind, and when considered in relation to the functions and rewards of medical skill they are the unique of humanitarian efforts.

Much misery in society is occasioned by needless litigation. Legal arbitrament of infinitesimal grievances is sought. Reason abdicates for hate. Estates are absorbed, character is sullied, and bitterness and strife engendered, which one generation shall not efface. If our brethren of the law would emulate the spirit which is abroad in the medical world, let them strive for the prevention of such results, and for the estoppel of practices of the bar which so recently had a fruitage in riot and death and disgrace to Christian civilization.

I shall occupy your time in a brief consideration of a question which, by reason of its conspicuous relationship to the vital interests of society, falls within the domain of State medicine. I refer to the education, medical and preliminary, of medical men.

For the purpose of a more intelligent presentation of the subject, I give a synopsis of the history of medical teaching:

For nearly one hundred years after the founding of the colonies, no medical school existed in this country ; *medical pupilage, during this period, offering the only means of acquiring such education. After a term of private study or apprenticeship, a certificate was issued which entitled the holder to practice medicine in all its branches throughout the colonies. If any aspired to a degree, they were compelled to attend one of the European universities to attain it. At a period ante-dating the inauguration of the Revolutionary war but a few years, two schools were established, one in Philadelphia, which has been perpetuated in the University of Pennsylvania, and one in New York as a department of King's, now Columbia College. The instruction in these schools was restricted almost wholly to the elements of medical science. The illuminating clinic had no

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*Encyclopedia of Education.

place in the curriculum of that day. When the great advancement in medical science since that era is remembered, how like travesty these ancient lectures would seem, could they be reproduced in one of our modern medical colleges! But these mother institutions had an aspect which makes them of blessed memory. They had a high standard of requirements, higher, perhaps, than any medical institution has maintained since that time. In King's College it was required: First, that there should be a preliminary examination in Latin and some branches of natural philosophy. This was required of all who had not taken a degree in arts; second, after three years' pupilage and one complete course of lectures, the bachelor's degree was conferred upon worthy candidates; third, after another year, and two full courses of lectures, students who were twenty-two years of age were admitted to examination for the doctorate, and were required to print and publicly defend a thesis on some medical subject. This seems a well-nigh perfect model of requirements; and we may readily believe, as was claimed for it, that the profession of that day was thoroughly imbued with the transplanted spirit of pride in letters and scholarly dignity which attached to colonial society. But how puny their science, how inadequate their medical and surgical armament, and how crude and heroic their treatment of disease! Much science and meager learning, with all attaching incongruity and reproach, are not so detrimental to the interests of ailing humanity as were the functions of medicine in that age.

These schools ceased to exist during the period of the Revolutionary struggles, but were reorganized soon afterward, together with Harvard, Queen's, and Dartmouth. They were with one accord rigorous in requirements, and so carefully did they guard the honor of the profession in exercising their privilege of conferring degrees, that at the close of the eighteenth century their graduates numbered but two hundred and fifty. During the first quarter of the present century the schools increased to sixteen, distributed in twelve States. About this time alliance with universities began to cease, and independent charters were sought and easily obtained from State legislatures.

The European method of teaching and licensing, which had hitherto prevailed, in a large measure ceased; preliminary qualifications were no longer demanded, the minimum of requirements were pretty generally adopted, the time of study was shortened, the examinations became less difficult, the printing and defense of theses were remitted, with the effect to materially depreciate the value of the medical diploma at home and wholly to rob it of all respectability abroad. From this time medical schools assumed the distinctive American type. Separated from the influence of association with literary colleges, and obtaining with no difficulty the legal right of existence, schools of inferior grade sprang up all over the country. Men with neither natural nor acquired fitness occupied chairs in many of these institutions, and among the incident abuses of privilege were the almost unlimited granting of the honorary degree, the granting of degrees upon the certificates of men of whom nothing was known by the faculties, setting forth that the candidate had engaged a certain number of years in practice in lieu of one course of lectures, and in many cases the issuance of diplomas *in absentia* or requiring only the formal appearance of the applicant for matriculation and the payment of fees. The American Medical Association, soon after its organization, undertook to effect a reform in medical teaching and to establish a higher standard of attainments for admission to the doctorate. A generally recognized need for such reform was, indeed, the incentive to the organization of this body, but, despite all efforts, matters grew scarcely better until within a period not very remote from the present. Thus we see that whatever of error and inadequacy there may be in medical teaching to-day, and whatever there may be of incompetency in the profession, they are the fruitage of years and can not be remedied in a day; and, however much we may desire reform, and labor for its accomplishment, we must await the results of legitimate efforts to this end.

I am not here to indulge pessimistic views as to the intellectual and literary status of our profession. Upon the basis of achievements, medicine need not hide its face when comparison is made with the other learned professions. From Pliny to Molière, and to a later era, there have been those to rail at and caricature medicine because of its feeble science and impotent art. But the science of medicine and the art of healing are no longer viewed as traditional vagaries. They are eminently respectable in this age. Ignorance and incompetency make no such conquests. Physicians, as a rule, have a close fellowship with the learned in all departments, and enjoy in a marked degree the favor of society. The *personnel* of any session of this organization presents an aspect of gentility and possesses an aptitude for extemporaneous debate and discussion of questions of business or science which shall not be easily excelled by any other collection of individuals in our State. But brethren, though we engage now and then in a little just self-laudation, we can not close our eyes to the fact that much ignorance is clothed by that ample American degree, Doctor of Medicine, and that the entire body suffers reproach therefrom, which, in a great measure, compromises its respectability and hinders its usefulness.

If, in the struggle for professional existence, the survival of the wisest, strongest, and best were assured by the right of superior attainments, then all questions regarding the medical character might be left to the adjudication of destiny. But so long as the hypercredulous and easily gulled characteristics of human society maintain their present standard, the ignorant doctor will not perish from the earth. His standing and apparent success, like that of all ignorant adherents of medicine and of all the disciples of nonsense, rest upon the intrinsic tendency to recovery from acute disease—upon the healing power of nature. His cases of pneumonia, of typhoid fever and scarlatina, we must acknowledge with confusion of face have no notable fatal preeminence over like cases in the hands of his learned neighbor. This, to rather a large element in society, closes the question; it is viewed as the *experimentum crucis*. His ignorance of the lesions of morbid anatomy and pathology; his inability to comprehend the intricate phenomena of disease; to read aright the endless reflex symptoms and trace them to cause; to rise to the demands of emergencies; to recognize the very beginning of contagious diseases, and to effect and enforce measures for the safety of the home and community, are deficiencies which seem not to come within the range of public vision. He kicks up a pedantic dust which utterly befogs many who believe themselves learned and wise. All his functions are shrouded in mystery and his endless errors are hidden by the grave. All his deaths are attributed to Providence; "The Lord gave and the Lord hath taken away," he says, in mock condolence to the bereft. It is a precious element in the faith of the Christian which can, in a needful hour, appropriate this sentiment, but it was not uttered by the Prince of Uz for the comfort or defense of the licensed destroyer of his kind. Any effort to check the arrogance of this character or to expose his ignorance, by the decent follower of medicine in his vicinity, evokes the cry of "persecution" and enables him to pose as a martyr, the coveted opportunity of every mountebank. The cruelest treatment he can receive from an individual doctor, or from an association of doctors, is to be ignored. But is he to be forever unhindered by society? His congener in law may be disposed of by debarment; the teacher may lose his license, and the minister of the Gospel is amenable to the courts of the church, but the medical free lance in Indiana is absolutely without restraint. This extreme medical character is, in many cases, the adherent of a system. We could heartily wish for the decency of our profession it were always so. But the toga of regular medicine is not always a garment of righteousness. Some of the most noxious quacks on the face of the earth are under the same sign-manual with ourselves. What is the cause of the measure of incompetency which exists in our profession, and what are the means for its cure?

In the ages when medicine was the battle-field of tradition, superstition, and the follies of alchemy, it was endeavored to give it the dignity of a science; but it passed but little beyond the domain of dogma until the dawn of the eighteenth century, when the spirit of Francis Bacon began to be manifest in experimental science. Since then medicine has had a gradual but scarcely interrupted growth, ever enlarging its borders and year by year growing nearer the truth. From these facts in history we learn the needed remedy; *science is its own conservator.* If the functions of medicine are debauched to-day in every community in the land, and a crude art, wholly divorced from the science upon which the true art of healing reposes, is imposed upon society, it is largely because men of insufficient preliminary education and mental training are allowed to undertake the duties of the physician. It is needless for me to say that there are many notable characters in our profession whose early opportunities were limited, and who by zeal and industry have both glorified themselves and the profession of their choice. This is true of individuals in every department of life. "It is scarcely possible to prevent great men from rising up under any system of education, however bad. Teach men demonology or astrology, and you will have a certain portion of original genius in spite of these or any other branches of ignorance or folly." But it is true, as a rule, that those who enter professional life with meager literary attainments remain inexpansive and unimpressionable throughout life.

It has been the custom to charge the faulty education of the profession in this country to the medical schools. From the largest in the land to those of exiguous classes and light equipments, these institutions are not guiltless. They have been too much possessed by our national impatience and hurry, and have practically allowed students to determine the time they should study and what should be the standard of requirments. Most of us will recall our medical college days with humiliating memory of the general success of candidates for graduation. Rare birds were the "plucked" ones. If the student was faithfully in his seat, and assumed an air of attention and respect to the oracles of the chair, the inquisition of the green-room was aptly tempered to his capacity. But medical colleges are not justly chargeable with illiteracy and incompetency in our profession. These institutions are the creatures of the profession, and in a large measure partake of its spirit and temper. They are not apt to rise above the fountain which feeds them, and so, when we talk of elevating the standard of medicine by reforming the medical colleges, we undertake the solution of the problem at the wrong side of the equation.

Mental capacity is the prime factor in the acquisition of medical knowledge. To engage intelligently in the practice of the healing art there must be acute perceptive faculties and enlarged reasoning powers; there must be an educated judgment, a disciplined mind. The cause of pathological phenomena is not appreciable to the senses as are the phenomena themselves. In the subjective and objective symptoms of disease we have facts from which we seek the cause. Symptoms are taken singly and studied and grouped, their bearing toward each other is considered, and thus step by step we go within to cause. An appreciable lesion given, and the mind seeks phenomena which should be sequential. The physician must be both inductive and deductive. He must be open to vast *a posteriori* and *a priori* visions and be capable of putting them to the test of his senses. If these methods of inquiry be not habitually indulged, he gropes in his work and his functions are those of the empiric. Such habits of investigation impart an enjoyable aspect to the physician's work; they mitigate the drudgery that attends his daily rounds; they convince him of ignorance of many things respecting which others are taught, and incite him to seek enlargement of his range of knowledge by associating with others; they impel him to keep up with current medical matters; to fill his library; to equip himself with all the instruments of precision for the study and diagnosis of disease; and these are the characteristics of legitimate medicine which lift it, in the superior excellency of its service to mankind, above any puny faith which quits all search with the symptom, higher than the peak of Orizaba is above the clouds of the valley.

The education which will give the inclination and ability to use the mental powers in solving the problems of disease must, in a large measure, be acquired before the medical course of study is undertaken. If a young man go from the grammar grade, or from the farm, equipped by a few winters' study in the district-school, unread even in the history of his own land, with little or no training in the English tongue, and essay the study of medicine, its mazes will confound him, and many of its essential truths will be to him as a sealed book all his days. It is not possible for an immature mind to take cognizance of scientific facts.

Medical schools can not, by the wisest arrangement of curricula, by graded courses and lengthened terms, nor by the most ample equipage of chair or laboratory, bridge the chasm of original illiteracy; nor can they be expected, reasonably, to turn away all the ill-educated or deny them graduation, while this class is so largely sent them from our offices.

The fundamental need then, in efforts to reform medical education, is to secure better literary attainments for those who would undertake to study and practice medicine, and any scheme that shall not keep this fact in view will fail of success. All of us have sinned against our profession and need to have more concern for its honor and dignity. We have received students unfit for study because we had not the courage to deny the son, perhaps, of a friend such privilege; or it may have been to secure the measure of public favor supposed to attach to the care of students; or from the baser purpose of securing servile help in our offices. We need to cultivate pride and jealousy, which shall impose themselves against the encroachments of the ignorant and unlearned, and which shall impel every honorable adherent of medicine to say to the candidate for admission, "You shall not, with my consent, or by my help, assume the title or undertake the duties of the profession which takes precedence of all others in the affairs of men until you shall exhibit proper and sufficient evidence of educational fitness for the exalted position to which you aspire."

Every ignorant man admitted to our profession has an injurious influence on the estimation in which the whole body is held. His errors are charged to faultiness of the science and art of medicine, and the distrust which he begets for himself occasions a want of confidence in the profession around him. Notably, his unceasing and heroic dosing of the sick is an offense for which we keenly suffer.

But, it may be urged, should a high standard of literary attainments be established, many ambitious and honorable young persons who esteem themselves unable to enjoy academic or collegiate privileges would be denied admission to medicine. Let them seek one of the honorable pursuits in life where they could be useful, and where illiteracy can do no harm. The exigency of the medical service to mankind is not such as to demand the admission of every one who imagines a professional career decreed for him.

This Society has already done much for the improvement of the profession in this State; but much remains to be done. In the auxiliary societies efforts should be made to gather in all honorable men engaged in practice. The larger the number we can have amenable to the rules of this Society and interested in its work, the greater will be the influence which we shall be able to exert within the profession for its improvement, and the greater also will be our influence with the people in matters pertaining to State medicine. It is better to draw in and improve those who have been admitted with deficient education than to exclude and ignore them. "One of the best methods of rendering study agreeable and profitable," says Sydney Smith, "is to live with able men and to suffer all the pangs of inferiority which the want of knowledge always inflicts." Few in our profession are too great or too learned to be excused by such rule; but the young and inexperienced are especially profited by association for the study of disease and the essential truths of science. They catch the spirit of emulation and learn what they never would have known else, that in medicine "a little learning is a dangerons thing." County societies would find it profitable to engage the members in elementary work. Those who have been for a long time in practice need such exercise, and younger members will always be attracted and profited by it. A paper now and then in which will be presented a study in chemistry, physiology, or regional anatomy will, in itself, teach something perhaps to all in attendance, and will incite to home-study of these and other fundamental subjects. Neglect of first principles begets empirical practice. The county society should also excite its members to investigation and research. This does not necessarily demand the crucible and retort, or exhaustive histological study. Any one with average professional sagacity, who shall for ten years of his life engage diligently in the collection of facts in relation to *one disease*, will be able to make a contribution to medicine which shall grant him an honorable place in its literature. In the usually well-directed labors of this body has there not been neglect of the collective investigation method of studying disease? The county society, with rightly used functions, is the nursery of the profession. It teaches the young member how to exercise aright his newly acquired duties ; it is a spur and corrective to the older, and imparts to all who are impressionable and teachable the true ethical spirit. This Society and its auxiliaries are to subserve no set or class in our profession. They are educating centers in the interest of the profession and for the good of the people. We have in this country, I believe, but one class of medical organization. The American Academy of Medicine limits its membership to those who have degrees in arts or sciences. Perhaps they attach too much merit to the formal attainment of a degree. All the decorated fools in the world do not hold the degrees of medical schools. This class in society, whether it be brayed in a mortar or ground through college, will adhere to its original type. The American Academy can not shut it out by any titular bar or bolt. But this organization is not to be despised because it is exclusive. An aristocracy of letters tramples upon the rights of no one. It will doubtless prove a sort of *vis a fronte*, and in the future, when we educate our sons for the profession of medicine, we shall find ourselves so fitting them as to render them eligible for membership in any of its institutions in the land.

One State and some local societies in this country have established a standard of literary attainments for those who desire to enter the profession, and make it obligatory upon their members to receive no one under their care who shall not possess the certificate of a board of examiners setting forth their fitness to engage in the study of medicine. The perfection of the organization of this body and its admirable *esprit de corps* render a measure of this kind easily practicable to it, and I trust we shall have such as a part of our organic law at an early day. Such restriction of medical pupilage could not fail to exert an immediate salutary influence.

In presenting this subject for your consideration, I have endeavored to show the following points : That vicious practices in medical schools began in the remote past, and have been fostered in our day by competition and by the rush and haste which are characteristic of American energy ; that the fundamental cause of incompetency in the medical profession in this country is primal illiteracy ; that the intelligent comprehension and use of an art which rests upon science is not possible to the ignorant ; that the presence in the profession of those who have not educational attainments essential to intelligent citizenship is injurious beyond all calculation to the interests of medicine, and is a peril to society ; that the remedy is, a better scholarship, and its application is largely with the profession.

With all there is to regret as to the educational standard of medicine, there is just cause in this day for congratulation. There is a general awakening in favor of reform, and if we read aright the signs of the times, the next decade will mark a greater advance in the interests of our profession than has been wrought in thrice that period of the past. The medical press, the medical schools of the better class, and the general sentiment of the profession seem to favor measures which have for their object the improvement of the educational qualifications of the American doctor. While we invoke and await the aid of the law to regulate the practice of medicine in the interest of the people, let us commend our cause to society by unceasing internal efforts for reform.

PRINCETON, IND.

POST-PARTUM HEMORRHAGE.*

BY JAMES F. HIBBERD, M. D.

There are several varieties of hemorrhage after labor, as from a ruptured perineum, a torn cervix, and a damaged vaginal or uterine wall; but attention is now solicited to that form where there is a large and quick discharge of blood from the interior of the uterus soon after the delivery of the child, whether the placenta has been expelled or not, and is the variety usually alluded to by speakers and writers under the term post-partum hemorrhage.

The frequency of this alarming complication of labor is not well established. In the twenty-eight months ending May 31st ult., Wayne County returned 2,105 births with 4 deaths from post-partum hemorrhage, equaling one death in 256 labors, an extraordinary fatality. And of these births 222 were returned for the quarter ending March 31st with 3 deaths from post-partum hemorrhage, one in each month, and averaging one death in 74 labors, constituting one of those phenomenal coincidences that disturb thoughtful doctors and alarm nervous women.

By the courtesy of Dr. E. S. Elder, Secretary State Board of Health, I am enabled to give the following statistics from his office: The whole number of births returned in Indiana for the twenty-six months ending March 31, 1884, is 82,564, and deaths from post-partum hemorrhage, 21, which is one death from this cause in 3,931 labors, a much smaller fatality than reported by Churchill.

Churchill tabulates 66,699 labors, and reports this accident in 310 cases, and of these 20 were fatal, that is one death from this hemorrhage in every 3,335 labors; or, differently stated, one hemorrhage in every 215 labors, and one death in every 15 hemorrhages.

There is no accident of the lying-in chamber that demands of the medical attendant so clear a head on the instant as a sudden gush of blood in a large stream from a uterus that has just been emptied of a fetus. Most of the dangerous mishaps of this chamber allow time to call counsel or at least for the accoucheur to think over the problem involved and recall what others have done or taught or what he himself has experienced on like occasions in the past, and by a comparison of circumstances decide what is best to be done in the present. Should his patient fly into a convulsion, whatever he does within reason, she will come out of it alive after a while and he can prepare to prevent a recurrence ; if the uterine wall splits open and the fetus passes out of the womb and in among the other viscera of the abdomen, the mother will live until the doctor's mind works out the best mode of proceeding ; but if a woman who has just been delivered of a child has a torrent of blood rushing from the vulva, it must be arrested quickly, or she perishes, and if there be less blood escaping and more of it filling up an inert and expanding uterus death is equally imminent.

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*Read before the Indiana State Medical Society, June, 1884.

The accoucheur, therefore, whether a young or an old one, who does not in advance have his mind fully imbued with the principles that should guide him in such an emergency, and his wits in such command at the moment as to be able to efficiently apply these principles without hesitation, is in such condition that he may speedily become a moral homicide, for the person who undertakes to practice midwifery and through ignorance or misconduct permits a woman to die of hemorrhage that a competent practitioner would have arrested is guilty of real, though perhaps not legal, homicide.

It would be an error in my judgment to suppose that in these cases the fault, if fault there be, always lies in not enough being done. I am apt to believe that often there is more done than is healthful ; not necessarily because the things done are wrong of themselves, but because too much has been done of that which was in appropriate measure good. It may be likened to the administration of morphia for pain. A quarter of a grain may be good and safe for enteralgia, but a quarter of a grain administered every fifteen minutes for an hour might be fatal. But the force of this argument will be more apparent after inquiry into the nature of this hemorrhage.

The anatomy of the uterus at term is not very clearly set forth any where within my knowledge, but it seems to be conceded that in the hemorrhage we are discussing the blood escapes from the uterine sinuses at the attachment of the placenta, which attachment has broken in whole or in part, leaving the sinuses open and pouring out their contents. These sinuses are a special development of pregnancy, are without valves, large and relatively straight before delivery, but when the womb has voided its contents and contracted to but a fraction of its former size they are twisted and doubled on themselves in such wise that their caliber is occluded, forbidding the exit of blood, and this is the safety state of the common puerpera, and it is only when this twisting and doubling fails to take place, or when from some cause they do not occlude the sinuses, that the hemorrhage we are considering occurs.

In the instances where there is hemorrhage from this source notwithstanding the contraction of the womb, if any such there be, the arrest of the flow must be accomplished by securing the plugging up of the open end of the sinuses by whatever means we have at hand, that will be efficient without being mischievous. The practicable plug is a clot of blood, and this is to be created by constringing the mouth of the vessel until the arrested blood coagulates, or by the direct application of a coagulating drug, as the salts of iron.

Supposing one has a puerpara who has bled freely, dangerously, and the womb was fairly contracted but has relaxed a little, and the woman is faint, gasping, or even in complete syncope, what is to be done? Shall we sprinkle the face with cold water, apply ammonia or other volatile pungent to the nostrils, chafe the limbs, and do other popular professional expedients to revive the patient? Apply cold to the hypogastrium and vulva, examine the uterus, which will be found filled with a coagulum, turn out the clot and insert ice, or inject hot water, or lave the whole interior wall with Mousel's solution? What would you do, my young friend, in such an emergency? The case is urgent, and you must meet its demands on the moment. There is no time to send for consultation. You must rely on yourself alone, and this under the fearful consciousness that in all probability the life of that prostrate woman depends on whether you do instantly the right or the wrong thing. It were a joyous state at this crisis if one could have the faith of the fatalist — believing that if the woman's time to die has not come she will not die—but one can not hide behind such a subterfuge. One must have been prepared for just this scene, and must face all its responsibilities. And it is to aid in the preparation to meet just such responsibilities that this essay is here presented. And there is, I fancy, no better way to make impressive the point I wish to have prominent than to narrate a case, viz:

On the first day of July, 1883, I attended Mrs. ——, aged twenty-eight, in her second confinement. She was a lady of culture and refinement and, though reared and remaining in luxury, was not effeminate. Her labor was rapid and relatively easy, the second stage continuing about two hours and terminating at midnight. My hand on the abdomen witnessed that the womb was fairly contracted immediately after the extrusion of the child, and then the ordinary time was consumed in attention to the child, say fifteen minutes. Turning to the mother, I found she was bleeding freely, which was not arrested by subjecting the womb to massage through the abdominal walls, nor was the placenta thereby passed down into the vagina. Promptly following up the cord, the uterus was found in a state of hourglass contraction, the constriction being about the middle, with the placenta in the upper division. With prudent haste I dilated the stricture with my fingers bunched pyramidally, to find the placenta not lying loose in its abnormal chamber, but more firmly adherent than I remember to have met with before, not peeling off from its attachment, as adherent placentas usually do, but requiring to be crushed off, as it were, by careful vigor with the ends of my fingers. This task performed, by external manipulation I secured contraction of the womb as I withdrew my hand, and immediately gave her a full dose of fluid extract of ergot, a medium dose of morphia and a moderate dose of alcohol, then sat down by the bedside with my left hand on the abdomen over the uterus, which was now slightly enlarged, my right-hand fingers on the pulse, and awaited events. They came rapidly. In removing the placenta the patient's head had been placed on the same horizontal plane with her body, and it was left thus. Her pulse was quick and feeble. She was anxious and distressed, complained of flashes of heat and a sense of suffocation, the pulse faded rapidly, was no longer discernible, the breathing ceased, and all was quiet as the grave—my patient had fainted—and still I moved not, nor allowed any one else to move. No water to her face, no camphor to the nose, no rubbing of the extremities of my patient lying there in the similitude of death; but I sat and watched and hoped. Presently there was a faint wave at the wrist, then a half-developed sigh, and anon the fullness of respiration in my patient and a restored circulation were the evidences of her return to conscious life, and still I sat and watched. In a few minutes the breathing was again hurried, another expressed apprehension of smothering, and again the pulse faded to indistinctness, and for the second time my patient had swooned from loss of blood, and yet another time no restoratives were applied, but the case left to the recuperative resources of nature, and they were equal to my anticipations and desires. The phenomena of active life soon re-appeared and reached a satisfactory state, and after a further watch of an hour I called the attention of the nurse to the state of affairs, and assured the confiding mother that all immediate danger was past. No subsequent evil was manifest, and the patient had speedy and complete recovery.

"Was this sound and safe practice?"

"Well, it was certainly safe; and that, I suppose, establishes its soundness, in this case at least."

"But," continues my learned and experienced confrère, "suppose Mrs. —— had never recovered from that swoon?"

"That would indeed have been bad; but did you ever see such a case fatal in that wise?"

"No; but I have heard of instances where a person has fainted dead."

"Yes, certainly, and I have seen them; and that in spite of camphor, ammonia, and all the usual so-called restoratives, but not in post-partum hemorrhages. I deem it a fair scientific conclusion that where a syncope is due to sudden loss of blood, or other acute impression in a system otherwise in a physiological condition, there will be an automatic restoration, unless the shock itself is fatal, and in such case the scene is closed at once, with, of course, no margin for help."

In my puerpera I looked for syncope, and desired it for remedial purposes. While satisfied that I had removed the last possible vestige of the placenta, I was apprehensive that the violence of the manipulation its removal necessitated had abraded some part of the surface of the womb and left an oozing of blood or broken a vessel that the contraction of the uterus did not close, and it was my hope and belief that syncope would favor the formation of a clot that the re-establishment of the circulation would not remove. The second swoon was not anticipated, but did not carry with it any apprehension of increasing evil, as it was not regarded as an evidence of continued hemorrhage because of the testimony of the hand still held in the inquiring position on the abdomen over the uterus.

The theory of the management of this case was this: In the administration of the ergot, the morphia, and the alcohol, it was believed that all the internal remedies had been given that could be of avail, and that quietude and rest were the best adjuncts to have them do their perfect work, and that an undisturbed condition of the uterus after contraction was of prime importance in stopping the flow of blood and maintaining a state forbidding its renewal.

If in this case I had become alarmed at the enlargement of the womb after the exhibition of the drugs per orem and by massage, or the insertion of the hand had removed the clot from the uterus and attempted to maintain a better contraction of the organ by manual efforts or the intra-uterine use of ice or hot water, or a styptic, I am of the opinion I should have sacrificed my patient; and I am further convinced that if, misapprehending the significance of the syncope, I had called aid and instituted active measures of restoration, I should have done an uncalled for and unwise act, bringing my patient's interest into further jeopardy.

Through the kindness of Dr. Iutzi, I have some of the particulars of a more recent case of post-partum hemorrhage than my own. The doctor furnishes me these facts, viz:

Mrs. X., a midwife, makes report as follows: Mrs. Wiest, a German, aged thirty-three, was delivered of her seventh child February 16, 1884. The second stage of labor was normal, was about three and a half hours in duration, terminating in the birth of the child alive at half-past five o'clock A. M. A single pain soon after the expulsion of the child passed the placenta from the womb into the vagina, whence it was extracted in about two minutes after the birth of the child. Only an ordinary amount of blood came away with the placenta, and the uterus was fully contracted. Immediately after the extraction of the placenta, there were two uterine pains, hemorrhage became profuse, the womb enlarged to above the umbilicus, and in ten minutes the patient vomited, throwing up simply water, of which she had drunk profusely. The womb contracted again and then again enlarged, and at the end of thirty minutes the patient vomited for the third time and then fainted. She continued to vomit every ten minutes for an hour, when she died, one hour and a half after the birth of the child, the womb having contracted and expanded three or four times, the hemorrhage meanwhile continuing profuse. No estimate of the quantity of blood lost could be made, not even an approximate one. No medicine was given at any time; but to revive from fainting the surface was bathed with vinegar and cold water and friction was applied to the abdomen. Dr. Weist saw the patient half an hour after death, and found her blanched, the womb firmly contracted, the bed saturated with blood, some of which had passed through on to the floor.

It can scarcely be doubted that in this case if there had been an intelligent effort to manipulate the womb into contraction, and maintain it there, it would have succeeded and saved the patient's life, and it is not a wholly gratuitous inference to suppose that had there been no vomiting or other event to disturb the quietude of the patient, even after there had been considerable hemorrhage into the uterus, there might have been a different result, for there was not complete inertia of the womb, as is evidenced by its several contractions and relaxations. And I think we may feel well assured that frequently a woman, after delivery, has her partly-relaxed womb filled with blood that coagulates and acts as a mechanical hemostatic by pressure against the sinuses, and no mischief results; whereas, if in such cases there were repeated emptyings of the organ, either by natural energy or mistaken artificial interference, and as frequent refilling, the patient would succumb.

The lesson, therefore, I wish to inculcate is, that we should cultivate such a clear conception of the nature of hemorrhage after child-birth, and of our duties in its presence, that when it occurs we do not lose our heads, and through timidity do too little nor through termerity do too much, always remembering that to do too much of a good thing is ofen as fruitful of evil as doing something that is wrong *per se.*

And I am the more anxious to inculcate this lesson, because, to my mind, most of our text-books are not sufficiently precise in pointing out the exact nature of this complication of labor, are too indefinite in their theraupeutic instructions, proposing quite a list of miscellaneous remedies, and not teaching as to their discriminating application. Perhaps I can not better illustrate this point than by quoting from one of the most recent of these text-books, "The Science and the Art of Midwifery," by Prof. Lusk, a most excellent and reliable work in its general make-up, but, like most other good books, has some weak points, and this quotation discloses one of them, as I see it. In speaking of the treatment of post-partum hemorrhage, under the head of "Methods of Securing Uterine Contractions," Professor Lusk declares as follows:

> It is my own practice, and one I urge upon others, to make provision in the simplest of cases against the possible occurrence of hemorrhage. In the beginning of the second stage I examine my Davidson syringe, to make sure that the valves are in good working order. I then direct a small table to be set by the bedside of my patient, and place upon it a bowl containing pieces of ice about the size of a hen's egg, brandy, sulphuric ether, neutral perchloride of iron, carbolic acid, ergot, a solution of morphia, a hypodermic syringe filled with a fluid extract of ergot, using preferably a watery solution. Within easy reach I likewise have placed a pitcher of hot water, another of cold water, an empty basin containing the Davidson syringe, and a bedpan. All this requires but a few moments' time, and it is of no mean advantage to feel, in case hemorrhage follows the birth of the child, that all the appliances for prompt action are in order and close at hand.

This is an extensive catalogue of the things that compose the complete armament of the accoucheur for this emergency, and the specific character of the articles named, and the precise instructions as to their arrangement about the bed would, at first sight, seem to render the programme just the thing that the young accoucheur should rely on and always execute, but a thoughtful examination of the scheme itself, and a consideration of the circumstances attending its execution, will make it apparent that its elaborateness and precision are fatal to its practical value, that it is, in fact, a *multiform* delusion. If a doctor, relying upon its teachings, should undertake to square his actions by its demands, he would, unless favored by chance, soon weary of what would prove useless labor and futile precautions.

Without indulging in a surmise of the extent of Prof. Lusk's private obstetrical practice, I will venture to say that the average physician does not attend more than one labor a week—fifty-two per annum. At this rate, if we may rely on Churchill's statistics, such physician would have the opportunity to use this pre-arranged safety battery only once in a little over four years. Think of a doctor setting this obstetrical table two hundred and fourteen times, that he might test its virtues on the two hundred and fifteenth occasion! Or, further, the same statistics declare that the ordinary methods of management of post-partum hemorrhage saves fourteen cases of every fifteen that occur; therefore, all this preparation is to save this fifteenth case, which, as previously stated, happens but once in 3,335 labors, and to attend this number of labors at the rate mentioned would required a little more than sixty years. Think again of a doctor lugging this farrago of appliances over the region of his practice in summer's sunshine and winter's gales, through mud and mire, into the city mansion, into the suburban hovel, into the rural house, for sixty years, watching and waiting for the one occasion when it may be a necessity for the safety of his charge. As but few doctors continue in practice for sixty years, it may turn out that after having spread this parturient panorama for fifty-nine years in vain, the old white-headed accoucheur may have to leave the fruition of a life's labor to his son, or other successor. And, moreover, can any one estimate the amount of nervous perturbation that the two hundred and fourteen women who did not need this preparation would suffer from gazing on this harrowing parade through all the hours of their labor after the first stage, under the reasonable inference that as these things were openly arranged about her bed the accoucheur knew, in his inner consciousness, that they would be needed in her case.

I have thus animadverted upon Prof. Lusk's teachings because they and their similars are extravagant, impracticable, and uncalled for, beguiling the confiding neophyte into the error of supposing there is a stigma resting on his professional status if he loses a patient when he has not conformed to these impossible instructions, and leading the unreflecting away from that close investigation into the nature of post-partum hemorrhage and the best available means of managing it, that it is the intent of this essay to bring up afresh to the attention of every one present.

Richmond, Ind.

MALPRACTICE.*

BY E. F. HODGES, M. D.

The *definition* of malpractice, as given in the law-books, is "Bad or unskillful practice in a physician or other professional person, whereby the health of the patient is injured." They divide it into, (1) *Willful* malpractice, when the physician purposely operates or gives medicine which he knows and expects will result in damage or death to the individual under his care. Criminal abortion is of this class. (2) Negligent malpractice comprehends those cases where there is no criminal or dishonest object, but gross negligence of that attention which the situation of the patient requires. If a medical man gives morphine for quinine, when intoxicated, he is guilty of negligent malpractice if the patient come to harm therefrom. (3) Ignorant malpractice is the administration of medicines calculated to harm, which do injury, and which a well-educated and scientific physician would know were not proper in the case. It has happened in this city that a so-called physician gave an erroneous dose of morphine, not knowing, as he confessed afterward, that the amount given would be fatal. This is an illustration of ignorant malpractice.

It is a common belief among us that the surgeon is alone open to these suits, and that physicians are for the most part free from liability, and this is the fact as a rule. Nine tenths of all suits are brought for damage arising in injuries to the osseous system—broken bones, dislocations, and amputations; and such injuries are treated by surgeons mainly, but the physician who never takes a lancet in hand is not safe. One of our number, as careful and painstaking a man as we have, toiled through many months of a suit for damages brought against him by a worthless woman for administering a dose of morphine to her when in pain. The very fact that she waked to renew her former life was proof of no harm done to her, and if there could be any charge against the doctor under the circumstances it would be that the dose given was not large enough for the public good. Physicians have been sued when children have been still-born, for rupture of the perineum, one at least for a relapse of typhoid fever, another for administering medicine which caused hysteria, etc.

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*Read before the Indiana State Medical Society, June, 1884.

The thigh-bone causes more suits for malpractice, probably, than any other one bone. Numerically the lower leg is the part most frequently injured in cases where the doctor is sued, but here there are two bones involved. The thigh is more liable to give shortening when fractured, to cause greater difficulty in treatment, and to tire out a patient more than any other, and these facts may determine a suit at law, and perhaps this is the cause of their frequency when this part is involved. Mere shortening has properly little place in the evidence of bad treatment of a broken bone, because there is seldom found a skeleton where symmetry is observed in the length of the bones of the two sides. Nevertheless, shortening is always urged as proof that the doctor failed of his duty. Other injuries which are fertile causes of malpractice suits are those occurring near to a joint, and which result in stiffness and comparative uselessness. The elbow is especially liable to become stiff when fracture occurs near to it and involving its structure. Again, Colles's, Barton's, any body's fracture near the wrist, is subject to the same result, and all this class of cases appears in the records of malpractice suits against the surgeon. Bad results in amputations, especially where re-amputation is called for, cause no end of trouble.

The law says that the surgeon is bound to bring to the performance of all surgical operations at least ordinary skill and knowledge. He must apply, without mistake, what is settled in his profession. He must possess, and practically exercise, that degree and amount of knowledge and science which the leading authorities have pronounced is the result of their researches and experience. This is all very well and may, when we show that these requirements have all been met in a given case, serve to protect us against the finding of an unjust verdict, but it will not pay attorney's fees nor taxable costs, since it by no means prevents the free American citizen from filing his suit, and places us upon our defensive at the cost of endless annoyance and loss of professional standing. It is not enough that the surgeon pleads conservatism—shows that the tendency of his treatment was to add usefulness to the injured part. The necessity for a second operation is a good excuse against the payment of his fees—a good cause of action against the doctor. Dr. Glover, an Eastern surgeon, was mulcted $2,500 under these circumstances, where a conical stump necessitated a second amputation. What is the obvious tendency of such a verdict against the profession? It is that when one of us has to saw off a leg he will, as Doctor Sawyer has said, thereafter saw it off short?

There is no safety in a multitude of counsellors. If the consulting surgeon be rich and the attending one poor, it is the counsel who is made to pay. Dr. J. A. Richards, of Farmington, Me., was sued for $10,000, and Dr. Anderson, of Gray, for a similar amount, where they saw the case as counsel, in one instance but once, in the other twice. A verdict against Dr. Richards was rendered, while Dr. Anderson was only saved because the patient was proved to have loosened the dressings. See a case and postpone your judgment until a second visit, and you may be sued. Dr. J. A. Small, of Lewiston, was sued for $5,000 for a case of compound fracture when he had seen it once and had not decided as to the propriety of amputation, and thought he would wait until to-morrow before declaring his opinion. Put a dressing on an injured man on his way to another town, and direct him to call in his family physician to have permanent adjustment made—you are liable to suit. Dr. Parsons, of Windham, was sued for $8,000 under such circumstances. In Indiana right of action dies with either party, but in at least one State in the Union, viz., Maine, it is competent for a man to sue the estate of a deceased surgeon for damage, the result of an operation performed by him during life. Dr. S. Chase, of Mt. Vernon, Me., was called upon to reamputate where a conical stump after amputation of the forearm gave a bad result.

He died, and his estate was sued for $2,000, and a verdict rendered for $1,200, which pauperized his widow and children. Two years from receipt of injury kills an action in our State, but minors may wait until of age before suit is brought. Dr. Sawyer, of Bangor, Maine, to whom I owe the statistics referred to in this paper, and whose ideas I have freely borrowed for our common good, was sued for opening an abscess in the course of white swelling of the knee.

Of the class which bring suits for malpractice there are, besides those who act with some show of justice, first, the downright knave, with whom accident requiring surgical care is simply an opportunity, as an open door is to a sneak-thief; and, second, those in whom poverty and ignorance combine to leave them at the mercy of the first designing pettifogger who thinks the chance of blackmailing the doctor worth his while. In whichever of these cases, there is one thing sure—the doctor's fees are never paid. Those who pay are pretty sure to possess sense of justice sufficient to keep them, even though dissatisfied with results, from law suits. But it is precisely for the poor and ignorant that the most surgery is done, for those whom poverty forces to do the heavy lifting in life, those whose employment lies among machinery, in working the heavy metals, laying and operating our railroads, etc. Fractures and dislocations may occur any where, but surgery for the most part is the inheritance of the hardworking man. Again, operations upon diseased joints and for neurosis in the shaft of bones are done upon the ill-fed, poorly nourished persons whose condition is oftenest the result of privation. In short, a majority of such surgery as comes to the medical man in general practice may safely be said to fall among the poorer and more ignorant classes. In other words, among precisely the class to be influenced by their necessities, to be open to the golden dreams of plenty which a crafty and unscrupulous lawyer knows how to awaken. What shall we do? Must we refuse to treat the poor in their injuries, and let them go from one reputable practitioner to another, all the way down the scale, until they reach a point where no responsibility, professional or otherwise, exists before they can find a surgeon ready to set their bones? To-day, in this city, there are medical gentlemen at the head of their profession who will see no surgical case except in families where want is not felt, and the motive for a malpractice suit consequently does not exist. They have adopted this rule not from timidity, but from the careful balancing of obligation to themselves and those dependent on them, on the one hand, and society at large on the other, and because they have found by experience that the income from the surgical practice of a lifetime (where a general medical practice accompanies it) would not make up the loss sustained in a single verdict.

In arraigning the legal profession as a prime factor in the development of suits for malpractice against the faculty of medicine, we must not unjustly omit our own shortcomings. Medical men are, of all educated persons, perhaps the most liable to act from motives of professional jealousy. I think that this must, to our shame, be admitted. Not that it applies in full force to the profession in large towns and cities, although careful investigation even there may develop latent evidence in support of this view. But look around into villages where *two* medical men divide the practice—where the clientage of one doctor forms a clan by itself and stands over against the following of the other. Then let the patient of one meet with a Pott's fracture, with permanent stiffness of the ankle-joint; and if one legal brother who lights on the name of the patient in a newspaper, and has clipped the article out, to be listed with others in his scrap-book, on chance of working it up, happens on the scene, it is fairly probable that the doctor will face a jury and have the pleasure of defining dislocation, explaining why a compound fracture is worse than another, before a cloud of witnesses abundantly sufficient to obscure the truth. If he is plucky and fights, he may only have to pay attorney's fees and taxable costs. If he compromises he pays anyhow, and is further injured in reputation. If a verdict goes against him he may be simply ruined. Here the rival physician is too often the head and front of the offense. His suggestions awaken in the patient or his friends the idea of suit; his evidence damages the defense, and, finally, his fees are collected from the pocket of his professional brother.

When you or I see a surgical case and are somewhat in doubt about amputation, we will say our professional instincts as well as common humanity lead us to make an effort to save the limb. Chances are to be taken, the risk of death or of recovery with a maimed and crippled, but still useful limb, must be run; but we persevere, and for our pains are sued for malpractice, and the patient exhibited to a sympathetic jury as evidence of our blundering surgery. They do not see the injured member as we saw it, when the choice was between wood and flesh and bone, and there are fairly even chances that they find for the plaintiff anyhow, for the Lord only knows how an average jury will decide any question of scientific import! They do these things better at the "Surgical Institute." A case is brought before them presenting some slight doubt as to a good result from conservative treatment, where you and I would think the chance of saving a limb at least worth trying. Our friends yonder take no chances. They simply follow Scripture, and when a limb offends them they cut it off and cast it from them, taking pains, however, that it falls into a bottle of alcohol conveniently at hand. Then, if suit for malpractice follows, the jury see just the primary aspect of the case, and the condition of affairs when surgical skill was called for is before them. It may readily be admitted that a jury of non-medical men will seldom stand a bottled specimen, especially if a little judicious dissecting has been done before corking it up.

And just here again we meet with a great and crying injustice. A jury is said to be made up of a man's peers, and every citizen is his peer, and yet in suits where the surgeon is attacked it is composed of men who do not know the difference between a case of smallpox and a head presentation. They are to decide questions of pathology where you and I, at times, would only reach conclusions after most careful investigation and repeated conference. They are *not*, in the sense which makes it proper for one man to judge another, our peers. None but a jury of medical men can decide a question of medical or surgical skill. What good does the evidence of so-called experts do toward enlightening an average juryman on questions of diagnosis, prognosis, or treatment, when any one who ever drew a tooth, sold rhubarb, or drove a yellow horse is a doctor to him, and any doctor an expert? Or how is a jury to reach any intelligent idea of the surgeon's duty under the circumstances from the charge of a judge himself in the dark on medical questions? But to judge and jury must we look for our safety.

Again, we are open to special hardship in the matter of costs. Any one, in most of the States, can sue the doctor if he can pay the first cost of filing his suit. The final costs are borne by the doctor, if he stands his trial. It makes no difference that the suit prove void—that it was instigated by fraud or malice—the doctor holds the sack. The tendency of all this is to drive the medical man out of surgery, since no calling continues to exist after the disadvantages exceed the privileges. In other States, medical societies have a voice in deciding the fitness of practitioners. New York and Ohio have this law, while in Illinois none can practice without a diploma. In New Hampshire and Vermont, boards are appointed by the State to examine newcomers, while in Massachusetts and Michigan plaintiff must give bond for taxable costs. It would be better if the bond covered the surgeon's fee, in case the plaintiff failed to make good his case, since the doctor's bill is never paid where suit is brought, the patients being invariably good for nothing. The prosecuting attorney, on the other hand, takes mighty good care that the surgeon is worthy. In Maine costs amounting to $31,784 have been paid by surgeons because plaintiffs were worthless. What are we to do about it? There are several horns to the dilemma. First, the physician may refuse cases of a surgical nature, put sternly behind him all sentimentality, look singly at the interest of those dependent upon him, and not at the suffering of a stranger. Or he may face the music, do what the case requires boldly, unselfishly, and with the single motive of humanity, and trust in the decency and gratitude of his patients for his fee and for his safety, in which course he will at times find himself leaning heavily upon a broken reed. Or, last of all, he may place his property out of his hands, do all the surgery that comes to him, go to sleep at night and in the morning tell every pettifogger who threatens him to go to a warmer climate. Let them take judgment—he will neither compromise nor defend—he will simply beat them on the execution.

We have little hope in legislation, since legislative bodies are largely controlled by lawyers, and they will make no law against their interests. So good a law as one which only required that the plaintiff should file a bond for taxable costs when he sued a "graduate in medicine," leaving him to file against irregular practitioners as before, has failed to pass. The ground against it was that it savored of class legislation. In favor of the bill it was urged that physicians have peculiar dangers in their professional work, and that they should have peculiar protection, and the protection asked was only the one accorded in England and continental countries, where the suitor pays into court the costs, and then the state becomes the plaintiff. Class legislation is so dreadful to the average American that the bill failed. The downright quacks are better off in some respects than men of accepted medical attainments. Thompson, the father of the Thompsonian mania, was sued for killing a man by administration of fourteen doses of his favorite peristaltic persuader, the drastic lobelia, and escaped by the charge of the judge that the plaintiff knew whom he was employing, and his peculiar methods; therefore, must take all consequences.

If, then, our remedy does not lie in legislation, and can not lie in any written contract releasing the surgeon from subsequent action, made at the time of rendering service to the patient, since such contracts are void, what are we to do? We *must* practice surgery, since this is a part of our calling, and there remains, (1) To discard all physicians from our societies who are found, openly or otherwise, to countenance the bringing of suits for malpractice. (2) To defend a brother practitioner, and, if neccessary, to make his defense a common cause, as it undoubtedly is—one suit successfully waged opening the way to others all along the line. (3) To put our pride away for the time, and if suit be brought against any medical man, be he a medical practitioner, a physico-medical, or homeopathic pretender, so he be accepted as a doctor by the public, to go out of our way to defend him, *provided only that reasonable ground for the treatment pursued exist.*

INDIANAPOLIS, IND.

CIVIL MALPRACTICE SUITS:

HOW CAN THE PHYSICIAN PROTECT HIMSELF AGAINST THEM?*

BY J. R. WEIST, A. M., M. D.

Every surgeon and every physician who treats surgical cases should know that civil suits for damages resulting from alleged malpractice are becoming so frequent in some parts of the country as to excite serious alarm in the minds of those who have given attention to the subject. It is so common an occurrence for the surgical treatment of the oldest and best physicians and surgeons to be called in question and overhauled in courts of justice, so called, as to cause a general feeling of alarm in the profession, and a conviction that the business of adjusting fractures, reducing dislocations, and performing other surgical operations is, at best, very dangerous so far as property and reputation are concerned. The result is that some of the most thoroughly qualified medical men are considering the propriety of refusing to attend surgical cases and confining their practice to that of medicine alone. They say, and very correctly, the fees usually received for attending surgical cases do not warrant a man of property in exposing himself to the probability of

*Read before the State Medical Society of Indiana, June 11, 1884.

having, sooner or later, to defend his treatment in an action for damages in which malpractice is charged.

These gentlemen know that a compromise of such a case by the payment of a sum of money is destructive to their reputation and sullies the honor of the profession. To defend themselves in the action is to place their professional standing and their property at the mercy of a jury nearly always composed of men selected because of their ignorance, who are wholly incompetent to understand the scientific questions involved, the evidence, or the law applying to the case. They also know that a successful defense even is in one sense defeat, because the disgrace, vexation, and cost are generally ruinous.

That the members of a profession which has done so much for the advancement of the human race, which excels all others in acts of charity and benevolence, and one to which all men turn for relief when disease comes upon them, should be placed in the unfortunate position described is evidence of defects in the profession itself, in the law, or in its administration; defects urgently demanding a remedy. I propose to briefly consider these questions, in order that relief may be sought for in wisely considered efforts.

That the profession itself is partly responsible for the evil threatening it is evident on the slightest consideration. The standard of education and honesty is so low as to permit an easy entrance into the profession, hence the ranks of medicine are crowded, and the number of medical men far in excess of the demand. This results in a struggle for business in which are employed the arts and dishonest tricks of trade; reputation is sought at the expense of others. The work of a competitor is decried, and the dissatisfaction of a patient encouraged. The remedy for these evils in the profession involves many and grave problems in sociology which I can not now stop to consider. I simply present as a general proposition, that every action for civil malpractice is directly or indirectly encouraged or supported by one or more medical men, rivals in business of the defendant, and for a dishonest purpose. If this proposition is true, every right-minded medical man should seek to know such offenders and aid in bringing upon them the obloquy they deserve; and medical societies should inflict upon them their heaviest penalties. Such action should be taken, not only in the interests of justice, but for self-preservation.

The profession has no reason to complain of the responsibility imposed by the law on the physician and surgeon. The measure of this is well laid down in "Hilliard's Law of Torts" (2 ed., vol 1. p. 253), from which I quote:

> In general, a physician or surgeon is responsible only for *ordinary* or *reasonable* care and skill and the exercise of his best judgment in matters of doubt, not for a want of the highest degree of skill. It is the duty of the patient to co-operate with his professional adviser and to conform to the necessary prescriptions; and if he will not, or, under the pressure of pain, he can not, he has no right to hold his surgeon responsible for his own neglect. The implied contract of a surgeon is not to *cure*, but to *possess* and *employ* in the treatment of a case such reasonable skill and diligence as are ordinarily exercised in his profession by thoroughly educated surgeons; and, in judging of the degree of skill required, regard is had to the advanced state of the profession at the time. A physician is expected to practice according to his professed and avowed system, where there is no particular system established or favored by law, and no system prohibited.*

Courts take no notice of the different "Schools" in medicine—the term "Physician," in Indiana, being legally assumed by any one who chooses to announce himself as a practitioner of medicine, and registers his name with the county clerk. The law recognizes all systems as legitimate. There is nothing unreasonable in these requirements of the law, and they are no more than are required of the other professions; that which is pronounced as settled in medicine or surgery by the leading and standard authorities is within the reach of every practitioner. If he has failed to duly qualify himself, or fails to diligently apply his knowledge, he should be held to the highest responsibility. It is not of the law in relation to the responsibilities of the surgeon we complain, but of the faulty execution of the law, or rather of the vexation and expense to which the surgeon is put to defend himself against a false charge of violating it. It is a protection against these we seek.

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*See comments on this by McClelland, Civil Malpractice, p. 18. Those interested in knowing more about the responsibility to which the medical man is held by the law, may consult Leighton v. Sargent, 7 Foster's Reports, 460; Elwell's Malpractice and Medical Evidence, 142; Long v. Morrison, 14 Ind. 595; Peck v. Marten, 17 Ind. 115. Hibberd v. Thompson, 109 Mass. 286; Scudder v. Crosson, 43 Ind. 343; Gramm v. Boener, 56 Ind. 502.

To show how much it is needed I shall suppose a case. Dr. A. is summoned to see B. who has a bad compound fracture of the elbow, received by falling in a drunken fit from a wagon. Dr. A. knows he will probably never receive any thing for his services, yet, actuated by a high sense of professional duty, he spends two or three dollars for proper splints, dresses the arm in the most approved method, and continues to give it careful attention for five or six weeks, visiting the case twice as often as necessary, upon the urgent demand of the patient, who is only satisfied with at least double the attention expected by an intelligent and prompt paying patient.

At the conclusion of the case, because of the character of the original injury, the bad constitution of the patient, or his failure to carry out the directions given, there is some deformity, perhaps partial anchylosis. Very soon some "Bushwacking" doctor becomes greatly interested in the patient, he is very sorry he is crippled for life, he inquires who treated the arm. When told, he is much surprised, nods his head with an air of profound wisdom, and asks if Dr. A. did this, that, and the other thing. When answered in the negative, his wonder is much increased; he tells that *he* has treated many cases worse than this, but never had so bad a result. He states the precise cause of the difficulty, using professional terms that profoundly impress the patient because he does not understand them, reads, possibly, what Dr. Gross or Dr. Hamilton says about such injuries, and makes demonstrations on a skeleton. He perhaps directly charges Dr. A. with ignorance, or carelessness; if more politic, he "*damns with faint praise.*" Whichever course is followed leads to a conviction in the mind of the patient that he has been badly treated by Dr. A. Possibly there is no actual intention to injure Dr. A., but the struggle for business in an overcrowded profession leads often to disparagement of a competitor that the doctor's learning and skill may be made prominent by contrast. When doubt about the proper management of his case has once entered the mind of a patient, there is no difficulty in getting opinions that will convert it into certainty; for it is evident that the profession is filled with incompetent, careless, and dishonest men—men who nearly always escape suits for malpractice, but who do much to have them instituted against others. B., supported by the professional opinions noticed, finds an attorney who urges him to sue Dr. A. for malpractice, and who will undertake the prosecution of the case for a contingent fee. Dr. A., having proper respect for himself and the profession, declines to pay a large sum of money as a compromise, and the case comes to trial. The plaintiff has no trouble in securing abundance of testimony from the class of doctors who encouraged the prosecution of the suit, and who secretly rejoice at the difficultly and disgrace of the defendant. Dr. A., feeling that his reputation and business are at stake, employs one or more prominent attorneys who do not work for small fees, secures the attendance of a number of prominent surgeons from the nearest large city by the payment of a liberal sum in compensation for their loss of business and for their expenses. The trial lasts from one day to three weeks. At its conclusion, after the plaintiff's attorneys have denounced Dr. A. as an ignorant and dishonest doctor, as a man little better than a murderer, the case is submitted—to whom? To a number of scientific and honest physicians or surgeons who, because of their learning and experience, are competent to weigh the testimony, judge correctly of the present condition of the plaintiff and understand the law governing the case? No; but to a jury, generally composed of men wholly ignorant of anatomy, medicine, or surgery, men whose judgment about an ordinary business transaction would be laughed at, men having only one qualification to sit in the jury box, that of ignorance. In these cases it is well known that whatever be the character of the evidence the balance of probabilities inclines strongly to a verdict against the surgeon. If such a verdict is rendered in our hypothetical case unjustly, Dr. A. is consoled by the reflection that "he can carry his case to a higher court, where judges whose duty it is to review the case, and whose function it is to sift evidence and to judge equitably, will probably remedy the evil by remanding for a new trial, which if there be right on his side, is nearly equivalent to a verdict in his favor." This knowledge, however, does not pay him for the vexation and trouble he has had, does not restore the reputation he has lost, nor put back into his pocket the money he has paid out to his attorneys, to his witnesses, and for court fees. B., the plaintiff, having no property, A., the defendant, although gaining the case, by the law of Indiana is compelled to pay his own costs. For the same reason a suit for damages against B. can afford no satisfaction, while one for barratry or maintenance against those who encouraged the bringing of the suit, or officiously intermeddled with it by assisting the plaintiff in its prosecution, can hardly be maintained, as the Indiana Statute (§ 2042) requires frequent actions of this kind to constitute guilt.

When Dr. A. finally gets through with the case, his reflections can hardly be other than bitter. His benevolence, that led him to give his time and professional skill to a suffering, moneyless, and perhaps friendless wretch, has indeed borne bad fruit. If he has been mulcted several hundreds or thousands of dollars in addition to his other costs, and incurred a corresponding amount of social and professional disgrace, he is virtually ruined.

The imaginary case I have given can be easily paralleled by real ones. And the fact can not be disputed that, whenever the physician or surgeon treats a fractured limb, reduces a dislocation or performs any other surgical operation, whether his reputation be small or great, he places it with his business and his property in the hands and at the mercy of his patient, be the patient intelligent, honest, and responsible, poverty-stricken, a thief or a fool!

Frequently the charge of malpractice is only made to escape the payment of a just bill. If a suit is brought for this, a counter-claim is made for damages. The surgeon is immediately by this action placed on the defensive and subjected to all the trouble, risk of reputation, and expense before recited.

A few years ago I sued a patient for services rendered, and although I had given him a great deal of good surgical attention, and literally kept him and family from suffering for the common necessities of life, and been influential in securing an allowance of a large sum of money by a railroad company for his injury, he attempted to offset the bill by a claim of damages from malpractice to the amount of $10,000. Although I gained my case on two trials, and was given judgment for a sum more than sufficient to pay all expenses, my neglect of business during the progress of the case and anxiety made me a loser in the end.

On examination of the Court Records in a county adjoining my own, I find that medical men of one county alone have within the last five or six years paid out about $14,000 as damages and in making defense in malpractice suits. In addition they have been at great expense from loss of reputation and business. A number of other suits are pending at the present time in the same county. Throughout the State, and indeed in many parts of the West, a similar state of affairs exists.

Is it any wonder that intelligent surgeons, alarmed at the frequency of malpractice suits, are asking if there are no means of protection against them? They do not ask exemption from the penalties of the law when they fail to *possess* or *employ* the highest knowledge and skill attained by the profession, or that "its heaviest judgment be not visited on those who ignorantly, drunkenly, and grossly trifle with health and human life," but that they be not held responsible for not doing perfectly what is absolutely impossible, and that those who do their work honestly and well shall not be made to suffer as much in reputation and property in establishing their innocence as the guilty subjected to the penalties of the law. That they are so made to suffer by the institution of suits for damages, when actions have no foundation upon which to rest either in equity or law, is apparent from what I have already written. It becomes then an important question, especially when dealing with irresponsible patients, whether or not the medical man can in any way forestall such action on the part of the patient, and thus prevent it. To obtain legal information on the point I addressed the following note to L. D. Stubbs, Esq., a prominent attorney in Eastern Indiana:

RICHMOND, IND., February 28, 1884.

L. D. STUBBS, ESQ., Att'y, etc:

Dear Sir: Please give me a written opinion on the following question: When called to treat a medical or surgical case, can the physician or surgeon by any sort of agreement—written or otherwise—protect himself against a suit for malpractice?

Respectfully, J. R. WEIST, M.D.

In reply I received, under date of March 8, 1884, an elaborate opinion, defining malpractice, and the contract of the physician as implied in law, which does not differ from that already given. Some legal principles are recited and decisions referred to, after which he says:

If the physician or surgeon therefore informs the patient whose case he takes, that he does not know any thing in regard to his profession, or the physician or surgeon, instead of acting upon his own judgment, acts under and upon the judgment and instruction of the patient, he being a person of mature years and sound mind, and after having protested against the course pursued, and fully informed his patient of his judgment, and the unreasonableness of that of his patient, he will not be liable in an action against him, if the result is not favorable. But if the physician or surgeon asserts, either explicitly or impliedly that he has the ordinary skill and knowledge appertaining to physicians and surgeons in such localities as that in which he resides, and undertakes to, and does act upon his own judgment, he can not make any contract by which he shall not be liable for a lack of that skill which he assumes to possess, or for negligence, or willful injuries, or for injuries arising from mistakes, which ordinary knowledge would have prevented or ordinary skill avoided.

After giving the legal definition of negligence, he says:

> To allow a physician by contract to exculpate himself from responsibility on account of negligence or willful injuries to his patient would be clearly against public policy. It would open a field of the greatest safety for every quack in the land, and remove the greatest of inducements now existing to professional skill and good faith in practice.
>
> A common carrier can not limit his common-law liability by contract so as to exempt him from the consequences of his own negligence or misconduct, because it is against public policy.
>
> Why then should a physician be exempt, life and health being more important than property? It is my opinion that it is so clearly to the public interest that those persons to whom those in physical distress and affliction are compelled to apply for relief shall bring to their calling the highest skill and knowledge that is reasonably attainable, and when, as is often the case, there is neither time nor opportunity to make discriminating choice, or drive prudent bargains, it would be highly detrimental to the public to allow the physician to provide against the consequences of neglect, or willful wrongs, by driving a sharp bargain, or by any kind of a contract.

This opinion makes it apparent the surgeon can not guard himself against danger by an agreement with the patient, as no reputable man could lower himself to the assumption of the rôle of an ignoramus. Even if he did so, and it were shown that he possessed ordinary knowledge and skill, the contract would probably be declared void because of the element of fraud entering into it.

It has been held by some medical men that if the person desiring to bring a suit for malpractice were required to give a bond to secure the surgeon against damages and costs in the event of a failure to establish his charge, the number of suits would be lessened, because a large proportion of them are commenced by irresponsible persons who would find it difficult to give such security. They have further held that, as in a suit for the collection of a debt, before a writ of attachment can be issued the plaintiff must give a bond for damages to secure the debtor against injury should the issue of the case show an illegal seizure of his property, justice equally requires that a similar bond should be given when both the reputation and the property of the surgeon are attacked. At first view both of these positions appear correct, but a little examination will show that they can not be maintained. As to the first, it is a principle of law that poverty shall debar no one from justice. Were such a bond required, a person who had received injury might fail to obtain justice solely because his poverty prevented his giving it. It would therefore be clearly against public policy to permit an action having this effect, or that might shield a surgeon against the consequences of his own ignorance or carelessness. In the second position, the examples are unlike. In the first, the property of the debtor is seized and he deprived of its use and benefit before the case is heard, that is, before a lawful claim upon him is shown to exist. In the second, the surgeon is not deprived of his reputation or property before his defense is made, not until, after due trial, he has been adjudged guilty.

For the reasons given we may not expect the enactment of a law requiring a person bringing suit for damages because of malpractice on the part of a physician or surgeon to secure costs or damages resulting to the defendant by the execution of a bond.

In some States—New York, for example—there is a law by which a judge in certain civil cases, including suits for malpractice, can make an allowance for defendant's costs and for damages where plaintiffs fail to sustain their case. There is no provision of this kind in the statutes of Indiana. Such a law would bring partial relief in certain cases. These allowances being made against the plaintiff, if he has no property, and this is generally the case, the law affords no relief to the defendants.

It appearing that a law can not be enacted which will lessen the number of malpractice suits, nor one which will in the majority of cases relieve from costs the physician or surgeon making a successful defense, it remains to consider the questions, Can the manner of trial of these cases be so changed that professional and scientific questions shall not be decided by a jury, generally, at least, totally unable to comprehend them? If not, can the method of introducing expert testimony be changed so that it will be in the interests of justice instead of the side calling it, as is too frequently the case under the present system of practice. Such testimony should, by its influence upon the jury, increase the chances of a just verdict being rendered. Now it usually lessens them, besides, from its character, tending to bring the reputation of the profession into disgrace and medical science to shame. In relation to the first inquiry it may be said, if the questions arising in these cases in regard to the nature of injuries, methods of treatment, and results, could be submitted to the arbitration of a number of learned and honest physicians or surgeons, whose decision would be final, civil malpractice suits would be but little dreaded by the well-informed and honest medical man. While this might be done under the law in all cases, if both parties to the action consented, it is seldom the plaintiff will agree to arbitration, and he can not be compelled to it, as section twenty of the Bill of Rights says: "In all civil cases the right of trial by jury shall remain inviolate."

The second question, relating to expert testimony, having been submitted to the Hon. W. D. Foulke, of Richmond, Indiana, State Senator, etc., elicted the following answer:

> The question submitted is, how to obviate the dangers of the present system of expert testimony in determining the skill and diligence of physicians in actions of malpractice. Several remedies have been suggested. Prof. Ordronaux, in the *American Journal of Insanity*, of January, 1874, proposes to remove all experts from the field of testimony and place them in that of arbitration, so far as any particular scientific question is to be decided, and suggests that whenever such a one arises, whose solution is material, that a feigned issue should be made upon the point, and referred for judgment upon evidence agreed upon to three experts, one to be selected by each party litigant and the third by the court, such experts to determine at once the question in dispute, and their opinion to be received by the jury as conclusive of the issue tried by them. That counsel should give notice to the court of the intention to invoke the testimony of experts, so that

the scientific issue could be tried in advance of the trial of the cause. This seems objectionable upon several grounds. (1) It would allow considerable complication of the issues, and add to the expense of litigation. (2) It can not always be possible to know in advance what expert testimony will be required, and upon what particular points. (3) It is of doubtful constitutionality, as it would take away from the jury the right to decide in regard to the issues submitted. A plan submitted to the Legislature of Massachusetts by a committee of medical societies of that State seems preferable. They urged the impropriety of compelling honest and honorable experts, who had made themselves masters of a science by study, observation, and experience, to put themselves in conflict in open court upon terms of equality with pretenders, who were willing to lend themselves and the science which they pretend to promote to the views or interests of their employers, and this, too, when the comparative claims of the two were to be passed upon and determined by jurors drawn from various pursuits of life and uninformed in the matters on which they were called upon to judge. And it was complained that life and property should not depend upon the haphazard result to which such a jury might come in trying to distinguish what might be true or false in science. The bill in that case referred to questions of homicide, but there is no reason why its provisions should not apply to civil actions for malpractice. It provided that "if in the trial of any issue in any court the presiding judge should be of opinion that the testimony of one or more expert witnesses, versed in matters of skill or science, a knowledge of which is material to a satisfactory determination of such issue, or may be useful or important in such trial, it shall be competent for such judge, upon the application of either party to such issue and after a hearing of such parties, if they shall desire it, to select and appoint one or more such expert witnesses, and to require their attendance to give testimony in such trial. And the witnesses so selected and appointed shall attend and be examined in the same manner as other and ordinary witnesses when testifying in the trial of such issues. The court shall allow such witnesses, for their services and attendance in such trial, such sum as may be adjudged reasonable, to be advanced and paid as is provided in respect to the fees of ordinary witnesses. And the sums so advanced and paid by either party if prevailing in the suit shall be charged by and allowed to him as a part of his costs, as in the case of other witnesses, unless the court for good cause shall order otherwise. Neither party shall be entitled to claim a delay or continuance of any trial for the purpose of calling in the testimony of expert witnesses unless the court shall be satisfied that there has been no unreasonable delay in making application for such appointment.

This plan would seem to present the fewest objections. The issues would not be complicated. No right of deciding any thing would be taken away from the jury, it would simply be left in the power of the court to determine what experts should be selected. As the law stands at present, the court must decide upon the examination of the witness himself as to whether he has sufficient knowledge to be an expert. By the proposed law a much wider discretion would be left to the court, who would have the right to select or reject any such witness. This right of selection must rest somewhere. It is safer perhaps with the court than any where else. A permanent expert organization would not be conveniently accessible. On the trial of cases the great advantage attained would be that the experts examined would not be the experts of the particular parties to the action who called them, but would be the experts of the court, and would be apt to discharge their duties in a much more impartial manner. It is also to be presumed that more competent persons would be chosen than under the present system. So too the expenses of trial would be considerably lessened, the number of experts being materially reduced.

A law of the kind proposed by Mr. Foulke would afford great protection to the honest and well informed surgeon—and greatly aid justice in all cases requiring expert testimony; and as such a one is probably the only law the medical profession can hope to secure bearing upon the subject, the county society I represent has caused the following bill to be drawn up by Mr. Foulke, and ordered her delegates to present the same to this Society, and ask the passage of a resolution praying the General Assembly of the State of Indiana to act favorably upon the bill when presented.*

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*The State Medical Society, received the bill favorably, and appointed a committee to consider the subject and urge upon the legislature the necessity of passing this or a similar bill.

Be it enacted by the General Assembly of the State of Indiana, That if in the trial of an issue in any of the courts of this State, except courts of Justices of the Peace, the judge shall be of opinion that the testimony of one or more expert witnesses versed in matters of skill and science, a knowledge of which is material to a satisfactory determination of such issue, may be useful or important for such trial, it shall be competent for such judge, upon the application of either party to such issue, upon notice to the other party, to select and appoint one or more such expert witnesses, and to require their attendance to give testimony on such trial, and the witnesses so selected and appointed shall attend and be examined in the same manner as other and ordinary witnesses when testifying in trial of such issues. The court shall allow such witnesses, for their services and attendance in such trial, such sum as may be adjudged reasonable, to be paid as is provided in respect to ordinary witnesses. And the sums so paid shall be charged and allowed as costs, as in the case of other witnesses, unless court for good cause shall order otherwise.

Sec. 2. Neither party shall be entitled to claim a delay or continuance of any trial for the purpose of calling in the testimony of expert witnesses, unless the court shall be satisfied that there has been no unreasonable delay in making application for such appointment.

Sec. 3. Expert witnesses so appointed by the court may be examined on deposition, as other witnesses.

Sec. 4. Neither party shall examine any expert witnesses as to any matters of skill and science over the objection of the other party, unless such witnesses shall have been appointed by the court as aforesaid.

In conclusion, the following extract from McClellan (Civil Malpractice, p. 528) contains perhaps the best general advice that can be given as to the individual measures to be taken. He says:

To avoid the annoyance of such suits, surgeons should above all the things be *honest* with their patients, apprising them of the difficulties of the case and the uncertainty of perfect results. They may do this without being "forward to make gloomy prognostication." They should be "candid in regard to their deficiencies, claiming no more than they can perform, no more knowledge than they possess; claiming no more for their art than belongs to it. Especially when acting as experts in courts of law, they should remember that other surgeons set broken limbs, as they write their names, after a manner of their own," and that good results have and may be obtained by a variety of methods of treatment. So long as these are amenable to the rule of common-sense they should not be decried, as is too often the case.

Surgeons should look carefully to their appliances, instructing their patients and nurses as to their uses, remembering that they are not familiar with these things, hence will need explanation and directions in plain English, and need them more than once. If any thing arises that seems to them wrong, or which they do not comprehend, they should be instructed to give the surgeon instant notice.

If possible the surgeon should have one or more *disinterested witnesses* present to observe his *omissions* and *commissions* and his reasons for the same. If after all this, the annoyance of a suit should follow, get the best legal talent the country affords, seek for experts among *truthful*, *honest* physicians; secure men who are able in their profession, yet who are not ashamed to acknowledge the deficiencies of their art; see that your counsel comprehends the case; comprehend it yourself in all its details.

Under no circumstances should such suits be compromised. Surgeons, after performing their duty, owe it to their professional brethren to let the matter be tried by the letter of the law.

And I add, use all your influence to secure a proper feeling in the profession on the subject, and an understanding of the matter by the people. Let the latter know that it is disgraceful that, in the enlightened State of Indiana, the honest and skillful surgeon while in the exercise of his profession has practically no protection for his reputation and property against the assaults of dishonest patients, to whom he has probably rendered without reward the highest professional service; that if the present state of affairs continues, the surgeon will be driven to the expedient of holding no property in his own right. By doing this, you may aid in securing to the physician and surgeon, "that protection in the performance of their arduous duties which is justly and equitably their right."

RICHMOND, IND.

ANGEL-WING DEFORMITY.*

BY G. W. H. KEMPER, M.D.

This rather uncommon affection, which is now generally conceded to be a paralysis of the serratus magnus muscle, occurs sufficiently often to merit a notice at the hands of this Society. During the past nine years, in my professional capacity as an Examining Surgeon for Pensions, I have met with three cases of this affection, and a short synopsis of them may be of some interest.

CASE I. E. F. S., formerly private, Company E, Eighth Indiana Cavalry; age, thirty-four. Examined May 5, 1875. At some period of the war, in an engagement, he received a blow across his back from a musket in the hands of an enemy. Soon afterward he noticed that the motions of his right arm were impaired. When he attempts to raise his right arm he can bring it to a horizontal line, but no higher. This effort causes the vertebral border and inferior angle of the right scapula to separate widely from the trunk. When his arm hangs by his side the scapula resumes nearly or quite its normal position. The motions of the arm are necessarily restricted.

CASE II. W. F. L., formerly a private, Company E, Sixty-ninth Indiana Volunteers; age, sixty-two. Examined November 7, 1883. Says his trouble began in 1862. He can raise his arm to a horizontal line with his body, but if it is forced beyond this pain is induced in the shoulder. The deltoid muscle is partially atrophied. The right scapula is more prominent than the left, and when he raises his arm or moves it so as to affect the muscles connecting the shoulder and arm the right scapula is drawn away from the body to a marked degree. The motions of the right arm are greatly impaired and hindered. He says his trouble began soon after he had made strong efforts to assist in extricating a mired mule.

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*Read before the Indiana State Medical Society, June, 1884.

Case III. J. W. C., formerly a private, Company G, Seventh Kentucky Volunteers; age, forty-six. Examined December 19, 1883. He can raise his right arm to a horizontal line, but no higher. While the arm hangs by his side nothing unusual is observed in the position of the right scapula, but as soon as he raises the arm the vertebral border and apex of the scapula are drawn away from the chest wall, forming a marked arch-shaped space. He attributes his present condition to the carrying of burdens shortly after an attack of typhoid fever.

Quite a diversity of opinion has prevailed in regard to the pathology of this disease. Gross says, "Serious malposition of the scapulæ sometimes arises from paralysis of the rhomboid muscles, chiefly in young anemic persons of a scrofulous habit of body. Great deformity is apt to attend the posterior border and inferior angle of the scapula, being widely separated from the trunk and standing out in bold relief."* Guided by this statement, in my report of Case I to the Department I stated that it was a case of paralysis of the rhomboid muscles.

A recent case before the Pathological Society of Birmingham and Midland counties, November 30, 1883, will illustrate how persons may differ in regard to its pathology: "Mr. W. F. Haslam showed a patient with an affection of the scapular muscles which allowed the right scapula to project from the thoracic wall when the shoulders were thrown back. The right acromion was depressed, and the arm could not be raised much above the shoulder. He thought the condition due to paralysis of the trapezius. Mr. Jordan Lloyd believed the rhomboidei were the muscles most in fault. Mr. Bennet May thought the serratus magnus was the muscle paralyzed, and that the lower end of the scapula had slipped from under the latissimus dorsi."†

A knowledge of the anatomy and physiology of the serratus magnus muscle will assist in elucidating the correct pathology. Allen says, "The serratus magnus muscle is a flat, nearly square muscle, placed at the side of the thorax, presenting a digitate oblique lower border, and extending from the ribs to the scapula. It arises by fleshy slips from the first to the eighth or ninth rib, inclusive; passes backward and upward, following the general curve of the side of the thorax and is inserted along the vertebral border of the scapula between the insertion of the rhomboideus muscle and the origin of the subscapularis. . . . When the entire muscle contracts, the ribs being fixed, the scapula is drawn forward (adducted) and held firmly against the thorax, thus enabling the muscles arising from the scapula to secure definite lines of traction. . . . The most important of these is the deltoid, which can not effectually raise the arm from the vertical to the horizontal position unless the scapula has been previously fixed by the serratus magnus. . . . Paralysis of the serratus will cause the scapula to be drawn upward by the action of the muscles named above, and the vertebral border to be notably projected from the sides of the body."*

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* Gross's System Surgery, 4th ed., vol. ii, p. 51.

† British Medical Journal, Dec. 8, 1883.

To Duchenne belongs the credit of the fullest exposition of the phenomena of this deformity:

"The true signs of paralysis of the serratus magnus are brought into relief by giving certain movements to the limb which is affected.

"Directly the patient separates the arm from the trunk, and especially when he carries it forward, the scapula executes two chief movements: (1) A rotation on its vertical axis, so that the spinal border separates from the thoracic wall. (2) A tilting movement, so that the lower angle rises and nears the middle line, while the outer angle is depressed.

"These wrong movements are directly proportionate to the degree of wasting or palsy. In its most extreme form the scapula projects like a wing from the thorax, and the skin of the back is tucked round the spinal border so as to form a gutter some four or five centimeters deep, which, when the trapezius and rhomboids are also wasted, may extend between the costal surface of the scapula and the ribs, presenting the appearance of a deep hollow reaching forward to the arm-pit and big enough to hold the entire hand.

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* Allen's System of Anatomy, pp. 278–9.

"The depression of the external angle of the scapula is also so great that the arm can scarcely reach the horizontal position, and in order to raise it higher the patient instinctively inclines his trunk to the opposite side.

"This limitation in the raising of the arm might incline one to think that the deltoid was implicated, were it not for the fact that when the scapula is supported by the hand and its lower angle pushed forward and held against the chest, the patient can raise his arm vertically without difficulty."*

The differential diagnosis between paralysis of the serratus magnus and contracture of the rhomboids has given rise to some difficulty, which can readily be removed by remembering the rule given by Duchenne, namely: In the first, the deformity occurs when the arm is lifted from the side; in the latter, while the arm hangs by the side.

Faradic reaction is lost, and galvanic excitability is greatly diminished in the affected muscle.

The first symptoms of paralysis of the serratus are usually characteristic, namely: Neuralgic pains in the region of the supra-clavicular branches of the brachial plexus (Erb). The pain may vary in intensity, and may co-exist with pain in other parts of the system. With this pain is soon associated a loss or impairment of certain movements of the arm and shoulder. If not prompted to do so by reason of the pain the loss of power in the movements of the arm will generally cause the patient to apply for medical aid.

If the patient be stripped and the arms allowed to hang loosely by the sides, little or no deformity will be observed. A close inspection may show that the inferior angle of the scapula on the affected side approaches more nearly than the other to the mesial line. If the patient be directed to raise the extended arm, he can bring it to a horizontal line, but no higher. This symptom is very characteristic. If now the extended arm be brought forward, the vertebral border of the scapula becomes more and more separated from the chest wall, rotating outward, so that in marked cases the anterior surface of the scapula may form a right angle with the chest wall. In this position the scapula projects from the body not unlike the "angel-wings" of the artist, and so has given rise to this distinctive name.

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* Duchenne's Works, New Sydenham Society, 1883, p. 305.

This affection is generally due to injuries and strain upon the muscles by over-use in debilitated subjects. It has been observed after an attack of typhoid fever. In one of my cases it resulted from a direct blow; in another from over-exertion in lifting; and in the third from carrying heavy burdens soon after an attack of typhoid fever.

This disease more commonly affects males, and as might be readily inferred the right shoulder, although the left, or even in rare cases both sides may be affected.

The treatment may be summed up in a few words. Generally the subjects are anemic, over-worked, or living on scanty diet, and amidst bad hygienic surroundings. Obviously the proper plan is first to correct any or all of these evils. The remedy, par excellence, is electricity. The affected muscle, with any others secondarily involved, should be treated to thorough and repeated applications of the interrupted current.

MUNCIE, INDIANA.

Clinic of the Month.

Plaster Supports.—W. T. Browne, M. D., of Jewett City, Conn., writes, in Boston Medical and Surgical Journal, on this important subject as follows: The object is to produce fixation with a material which shall be easy of application and easy of removal, being cleanly, light, durable, cheap, and ready for use as soon as one is done applying it. This may be obtained by the use of plaster of Paris in the following way, for support of the spine for instance:

Take three, four, or five pieces of plaster gauze as wide as the support is to be, and long enough to go around the body and lap ten or fifteen centimeters each way. Lay these on another piece of the same length and eight or ten centimeters wider, and stitch them all together in the middle of their length, so that the seam shall extend up and down the front of the complete support; rub cosmoline into this seam in as narrow a line as possible. Hold the layers of gauze up to the body, so that the seam shall come over the sternum and the widest layer next the body, and cut out where they come out under the arms and in the groins. It is not necessary to be very particular about the cutting, as the edge can be very easily turned over the required amount after the plaster has been applied and before it has set.

The patient, having on the usual thin undershirt that fits well, and without any pads, is suspended in the usual way.

Eight hundred or one thousand grams of plaster are now mixed with water to the consistency of cream, and while an assistant holds the gauze up to the body, the first layer is brought down smoothly and rubbed with plaster, then the next, and so on till all have been laid and filled with plaster; then turn the edges of the widest layer over the others, thus forming a binding and smooth edge.

The plaster may be put on with a brush or with the hand; I prefer the hand. It requires about fifteen minutes to apply the plaster, so it should not set quicker than that.

Such a support is cleanly, for the edges being bound are not liable to crumble.

It is much lighter than when put on with rollers, as it does not need to be as thick, owing to plaster all being mixed at once and setting in a uniform mass.

A bandage made in this way is two or three millimeters thick in front, and four or five behind, and will last three or four weeks. If it is wanted to last longer, it may have more gauze and more plaster.

The cost of the material is only a few cents, and the plaster will be found to be very thoroughly set by the time the binding has been turned and the surface rubbed smooth.

The plaster should be tested before using to ascertain how long it requires to set, and if it requires a few minutes more than by experience it is found to take to apply, it may be mixed a few minutes before it is required for use.

When it is necessary to remove the support it may be ripped open along the seam as readily as any seam in cloth.

It requires less experience to apply a bandage in this way, as it is impossible to draw it tighter in one place than another and produce ridges on the inside.

THE ADMINISTRATION OF PARALDEHYDE.—As a pure hypnotic, says Professor Dujardin-Beaumetz, paraldehyde is superior to morphine or chloral. The sleep is more calm, the awakening is easier, and is not accompanied by the headache and other bad symptoms which invariably accompany the use of opium. But paraldehyde is powerless in pain. In insomnia, especially that of morphiomaniacs, it is an excellent drug.

M. Yvon gives various formulæ for its administration; as paraldehyde, fluid ounces, one and one half; alcohol (90°), fluid ounces, six; simple syrup, fluid ounces, four; tincture of vanilla, minims, seventy-five. Dose—fluid drams, five, to fluid ounce, one, in sweetened water. It may be given in what Yvon calls the hydro-alcoholic solution: paraldehyde, one half fluid ounce; alcohol (90°), one fluid ounce; boiling water, one fluid ounce. This is a 1 to 50 solution, the dose of which is two and one half fluid drams to five fluid drams or more. This may be given in a little sweetened water, or in an aromatic infusion, as tea, mint, etc. The aqueous solution is: paraldehyde, one fluid dram; boiling water, one and one half fluid ounces; the dose of which is about one half of a fluid ounce. Instead of pure water, any distilled aromatic water may be used; or sixty minims of paraldehyde may be dissolved in two and one half fluid ounces of water. Another formula is: paraldehyde, fifteen, minims to one fluid dram; simple syrup, one fluid ounce; water, two fluid ounces; tincture of vanilla, gtt. twenty. To be taken in one or two doses. The vanilla may be replaced by tincture of canella, or some form of mint or anise. It may be given in elixir: paraldehyde, two and one half fluid drams; alcohol (90°), one and one half fluid ounces; tincture of vanilla, one half of one fluid dram; water, one fluid ounce; simple syrup, two fluid ounces. Dose, about one half of a fluid ounce, in water. (*Bull. Gén. de Thèrapeut.*)

MICROCOCCI OF PNEUMONIA IN SPUTUM.—As far back as June, 1883, Dr. Franz Ziehl (*Centralbl. für die med. Wissenhsce.*, No. 25) called attention to the fact that the micrococcus of pneumonia could be recognized with comparative ease in the sputum of that disease. Still more recently (*Ibid.*, February 7, 1884) he reiterates this statement. The distinctive feature of this micrococcus is the hull or capsule of mucous or gelatinous substance which Günther was the first to discover, and which Friedländer also describes as being very characteristic. It is extremely rare upon other micrococci; in fact, as good as absent in all other micro-organisms found in the human body, except the lepra bacilli, from which its shape easily distinguishes it. This capsule may surround a single coccus, or it may contain again two, three, four, or even more. It is not, however, invariably demonstrable, because from some cocci it is absent, and in certain others it is not easily discerned, while sometimes empty capsules are found. Specimens are best prepared by treating the dried sputum with a watery solution of gentian violet, and examining the colored preparation in a drop of water.

The demonstration of these micrococci in sputum, says Ziehl, has not merely an etiological, but also a diagnostic value, as they are found even before the physical signs are distinctive or the rust-colored sputum has made its appearance; and when it is remembered how often these symptoms are wanting when the physician is first called, we may have in the finding of the organism in the sputum of pneumonia an assistance to diagnosis just as valuable as the bacillus of tuberculosis.

INJECTIONS OF BLOOD INTO THE PLEURAL CAVITY. — Dr. Bernardino Silva relates in the *Rivista Clinica* some experiments made by him upon animals to determine the amount of absorption of defibrinated blood injected into the pleural cavity. His experiments were ten in number, made upon rabbits, and led him to formulate the following conclusions: (1) Absorption of defibrinated blood proceeds through the pleura as well as through the peritoneum; (2) The effects of the injection of homogeneous blood (rabbit's blood was used in all the experiments) are seen in an increase in hemoglobin and in the number of red globules within four or five hours after the injection, and are prolonged for more than four days afterward; (3) The greatest increase in hemoglobin takes place within the first twenty-four hours; (4) The absorption of hemoglobin is greatest when the quantity of blood injected is small. If so much blood is injected as to produce atelectasis, no increase of hemoglobin is observed; (5) The transfusion of blood into the pleural cavity causes an increase in the excretion of urea—an increase, however, which is preceded by a diminution during the first twenty-four hours. This last conclusion, the author says, needs further confirmation. In a note at the end of his article Dr. Silva states that Prof. Bozzolo has made an inter-pleural transfusion in the human subject, with beneficial results, in a case of anemia complicated with malaria cachexia, ascites, and anasarca, and albuminuria.

DIET IN TUBERCULOSIS.—In the *Berliner Klin. Wochenschrift* Dr. Bidder, of Berlin, concludes three articles on the relation between the alkalies of the food and the etiology of tuberculosis, by advocating a diet as free from potash salts as possible, but rich in common salt, as being a soda salt. He argues that the latter renders the tissues unfavorable to the development of the bacilli of tubercle, and that in young patients with tuberculous processes going on in the bones, joints, glands, lungs, etc., half a gram to one gram of common salt should be given three or four times daily with the food, according to age. If dislike to this be shown, benzoate of soda may be substituted in doses of three to seven and a half grains. Indeed, the latter salt (known to be useful in the summer diarrhea of children) is highly relished; it is aromatic in taste and increases the appetite. Bidder thinks, moreover, that the well-known injurious influence of iodide of potassium upon tuberculosis or scrofulous processes is probably due not to the iodine but to the potash, which is replaced by soda in the stomach. The diet should contain an excess of albumen, of fat, and of salt in the cases mentioned. The article concludes by a reference to rickets, in which a connection with tuberculosis is attempted to be proved. Rickets is said to be due to an excess of potash salts in the food as one cause of it.

THE USE OF HODGE'S PESSARY IN FRACTURES OF THE LOWER JAW.—Dr. W. J. Naismith (Lancet) describes a fracture of the lower jaw at the symphysis, with a transverse wound two inches in length over the mental protuberance. The fragments of the jaw were freely movable, and it was desirable to apply an apparatus which would fix the bone in place immovably, and at the same time allow the wound to be dressed. Accordingly, a Hodge's pessary was brought into use, by bending it so as to allow the chin to protrude through its ellipse. One bar was molded so as to support the fracture anteriorly, the other steadied it from below, while the rounded ends afforded admirable lateral pressure on each side, at a point in front of the angles of the jaw. To the rounded ends of the pessary tapes were sewn, two on each side, over the padding, and secured over the head, or to a fillet, and around the neck by small buckles. For fractures of the inferior maxilla at or near the symphysis, with or without wound, the Hodge's pessary seems well adapted. It can be bent to fit any size jaw, and in the qualities of comfort, lightness and coolness compares very favorably with the solid, cumbrous appliances included under the head of molds.

SUBSOIL DRAINAGE BY THE EUCALYPTUS GLOBULUS.—A curious instance of the power of the eucalyptus globulus to drain wide areas, and of the distance to which its roots will penetrate, is afforded by a story which comes from Alameda County. The owner of the Bay Island Farm recently found a curious root-formation in the bottom of his well, about sixteen feet below the surface. The trees to which the roots belonged were fifty feet from the well. Two roots had penetrated through the brick wall of the well, and, sending off millions of fibers, formed a dense mat that completely covered the bottom of the well. Most of the fibers were no larger than threads, and were so woven and intertwisted as to form a mat as impenetrable and strong as though regularly woven in a loom. The mat, when first taken out of the well, was water-soaked and covered with mud, and nearly all that a man could lift, but when dry it was nearly as soft to the touch as wool, and weighed only a few ounces. (British Medical Journal.)

A NEW REMEDY FOR DIPHTHERIA.—It is to Germany that we are indebted for this efficacious and simple treatment, which consists of large doses of oleum terebinthinæ rectificatum. Different writers have highly extolled it and ascribe to it actions which seem almost miraculous.

It would appear that scarcely half an hour after its administration a bright scarlet tint begins to encircle the diphtheritic exudation, gradually increasing in size, at length it completely envelopes and replaces the false membrane.

Authors, who have been liberal in their praises, affirm that within twenty-four hours after the ingestion of the remedy the disease has wholly disappeared, leaving hardly a trace.

The treatment, however, seems to be attended by such marvelous success and promptness of effect only when the disease is in the first stages; nevertheless, even after the disease has existed for several days, it exerts, though not as promptly, a decided curative action and hastens the ultimate recovery. The dose, which is best given immediately after meals and in a little warm milk, ranges from a teaspoonful for children to a tablespoonful for adults, morning and evening. (*Journal de Thérap.*)

TREATMENT OF CHRONIC VAGINITIS.—Dr. Martineau has found, at the Lourcine Hospital, that salicylic acid mixed with powdered gum arabic and wheat flour, according to the following formula, gives good results:

℞. Salicylic acid, ...	3 parts.
Wheat flour, ...	5 "
Powdered gum arabic, ...	1 "

This powder is applied to the whole of the internal surface of the vagina by means of an insufflator. (*Ann. des Mal. Genito-Urin.*)

SALICYL-RESORCIN-KETONE.—Salicyl-resorcin-ketone is a compound which is formed when salicylic acid and resorcin are heated together to 195° or 200° C., and, as might have been expected, it shares to some extent the antiseptic and antipyretic properties of the bodies from which it is prepared. According to Herr Repond in small quantities it is less powerful as an antiseptic than either salicylic acid or carbolic acid, its action being to limit the development of rather than to kill the septic germs. It is, however, non-poisonous, repeated doses of two grains having been administered without inconvenience; it has been found useful for surgical dressings, and has been given to the extent of three or four grams daily in typhoid fever without producing any unpleasant symptoms. Salicyl-resorcin-ketone is soluble in 1000 parts of water at 40° C., soluble with difficulty in hot water, and easily soluble in glycerine and alcohol. It melts at 133° to 134° C., gives when in solution a red-brown color with perchloride of iron, smells faintly aromatic, and has a not disagreeable taste. The corresponding compound with phenol, salicyl-phenol-ketone, is still less active as an antiseptic, and is more insoluble, but is said to be non-poisonous even in ten-grain doses. (Lancet.)

GALL-STONE IN RELATION TO CANCER OF THE GALL-BLADDER. Carcinoma of the stomach is often found to be developed on the round ulcer of the stomach, and the following case shows clearly that cancer of the gall-bladder is often developed on the lesions produced by calculi, the traumatic origin of cancer being also here corroborated. The patient, a woman sixty-six years of age, complained of loss of appetite for three weeks, and there were pains in the right epigastric region, the feces being white and irregular. There was icterus of the skin and conjunctiva, the arteries being enlarged. The liver was large but smooth, its margin rough; in the region of the incisura cystidis felleæ there could be palpated a hard body of the size of a hazel-nut, with large margins; the urine contained gall elements. At the apex of the heart a systolic murmur. The gall-stone could be distinctly palpated for three weeks, but after the fourth week it had disappeared. The patient then became edematous, and on the surface of the liver were now some nodules. The diagnosis was cancer of the gall-bladder. The autopsy proved the development to have taken place from the calculus and the scars which were formed by its lesion. There was also cancer of the liver and the right ovary. (*Wiener Med. Wochenschrift.*)

SIMULATION OF ONE-SIDED BLINDNESS.—To discover simulation of one-sided blindness Dr. Bravias, at a meeting of French Academy of Medicine, February 19th, (*Deutsche Med. Zeit.*), recommended the method of Snellen. This latter consists in the fact that if one writes with a red pencil on paper, the letters written can not be recognized if seen through red glass. If one holds before the apparently healthy eye a red glass, and before the pretended blind eye any kind of glass, or none at all, and requests the simulator to read the red letters on the paper (which have not been before shown to him) and he can read them, the evidence of his simulating is clear; for if the second eye had really been blind, he would not have been able to recognize the red letters through the red glass.

MANAGEMENT OF FACE PRESENTATIONS.—Dr. E. L. Partridge, of New York, read a paper on this subject. He said that the transformation into face presentations occurs within the last two weeks of pregnancy. He narrated a number of cases in which, under chloroform, he introduced the hand and converted a face into a vertex presentation. He proposed the questions: "Is it desirable to effect a change to vertex? And is the operation easy and free from danger?" The favorable circumstances are: dilated os, a face easily lifted from the pelvic brim, unruptured membranes, and capacious vagina. The operation is easy, it being only necessary to introduce the fingers into the uterus.

REINDEER TENDON AS A LIGATURE.—Dr. Putiloff, of Omsk, in Siberia, reports that he has found the thread made from the tendon of the reindeer, for sewing, in Siberia, a highly useful substance in surgical practice. For this purpose it is first steeped in ether for twenty-four hours, and afterward, for the same time, in a five-per-cent carbolic-acid solution. Thus prepared, the tendon is found to be stronger than catgut, and as soft as silk, and is completely absorbed in the wound. (*Centralblatt fur Chirurgie.*)

Two cases of rupture of the uterus from the injudicous use of ergot in labor were reported to the Medico-Chirurgical Society of St. Louis.

Notes and Queries.

Duties of Physician to Patient.—Dr. John H. Galton in a recent address (Brit. Med. Journal) said: From the patient's point of view, the duties of the physician are well summed up by old Burton, "Only thus much I would require, honesty in every physician." Often the all-important question arises, How far are we to be open in the expression of our opinion to the patient? Certainly so far as is necessary to his safety or to the avoidance of risk. As to the name or nature of a disease, although absolutely frank in their statement to the friends, it is often merciful to withhold the exact nature of fatal disease from the patient. Are we in this matter to be wiser than Providence, which, knowing all, often discloses none? I would mention a case of cancer of the pharynx. A short time back, a case of congested throat, of some duration, disclosed on closer examination a mass of cancerous infiltration behind the tonsil. The patient was a strong-minded old man of sixty, sturdy, gnarled, and stiff as an old oak; one would have thought him capable of bearing any definite knowledge better than uncertainty. I took a second opinion upon his case, which confirmed my own, and, on his return, he put the question directly to me, "Is it cancer?" I replied, "Yes." He rapidly made a will, and died in three weeks; whether or not the best termination it is not in our power to say, but certainly the disease did not kill him, for there was neither hemorrhage nor much ulceration nor stoppage of food. There is one point upon which, perhaps, we are not sufficiently alive, and that is in promoting euthanasia, or dying in a pleasant way. When our cases fail to yield to remedies, we have to devote our efforts to relieve pain and distress; and I do not think that these should be slackened, and that we should be unaiding spectators in the last painful struggle of death. I have frequently found a quarter of a grain of morphia, given hypodermically, convert the prolonged agony of dying, most distressing to the patient and his friends, into a quiet gliding away. Hear what Bacon says upon this: "And, further, we esteem it the office of a physician to mitigate the pains and tortures of diseases, as well as to restore health; and this not only when such a mitigation, as of a dangerous symptom, may conduce to recovery; but also when, there being no further hopes of recovery, it can only serve to make the passage out of life more calm and easy. For that complacency in death which Augustus Cæsar so much desired is no small felicity. This was also observed in the death of Antoninus Pius, who seemed not so much to die as to fall into a deep and pleasing sleep. But the physicians of our time make scruple of attending patients after the disease is thought past cure, though, in my judgment, if they were not wanting to their own profession and to humanity itself, they should here give their attendance to improve their skill, and make the dying person depart with greater ease and tranquility." Our duties would be greatly lightened were patients in general to take to heart the advice of old Burton:

"1. That he be not too niggardly miserable of his purse, or think it too much he bestows upon himself, and, to save charges, endangers his health.

"2. That, out of bashfulness, he do not conceal his grief.

"3. A third thing required in a patient is confidence, to be of good cheer, and have sure hope that his physician can help him.

"4. That the patient is not too bold to practice upon himself without an approved physician's consent, or to try conclusions if he read a receipt in a book; for so many grossly mistake, and do themselves more harm than good."

THE doors of the Massachusetts Medical Society have been opened to women. This event will be looked upon by the friends of the measure as the beginning of a new epoch in the annals of the Society. Whether in a few years the members of the Society will look back with misgivings on their action in regard to *women* is a question. From private sources it is learned that steps have been already taken by some of the women here engaged in practice to obtain admission to the Society, but this consummation is far from a reality at present on account of certain prohibitory enactments in the standing resolves of the councillors prohibiting their admission to examinations by the censors of the Society, one resolution even providing for the legal defense of the censors in case of judicial proceedings on account of a refusal to examine female candidates for fellowship. By what means or at what time these disabilities and restrictions will be removed by the Board of Councillors remains to be seen. The champions of the women feel that they have achieved a brilliant victory, and assert that the triumphant entrance of the gentler sex into the full membership of the Society will be speedily accomplished, while many grave and decorous physicians are hoping and praying (I think they pray) that the councillors by their deliberate and conservative methods may still avert the dreaded amalgamation for some time yet.

THE S. D. GROSS PROFESSORSHIP OF PATHOLOGICAL ANATOMY.—American surgery has had no better exponent than Samuel D. Gross; none so honored abroad and at home by institutions of learning; none more revered by his associates and his pupils. His long and brilliant professional career deserves the perpetuation of his name in close association with medical tuition.

In furtherance of this object, the Alumni Association of Jefferson College has inaugurated a movement to secure, in some medical school, the endowment of a Memorial Professorship, to be designated The S. D. Gross Professorship of Pathological Anatomy.

The profession at large, the personal friends of the late Professor Gross, and others interested in elevating the standard of medical education, are cordially invited by the undersigned to participate in this graceful recognition of conduct and services which have largely helped to establish the high standard of excellence to which surgery has attained throughout the United States, and served so much to dignify the repute of American medicine.

Contributions may be sent to Dr. R. J. Dunglison, Treasurer, Lock box 1274, Philadelphia Post-office, and will be acknowledged in the columns of the "Medical News" of Philadelphia. D. Hayes Agnew, M. D., is Chairman, and J. M. Barton, M. D., 1344 Spruce Street, Philadelphia, Secretary.

The committee for the State of Kentucky consists of Drs. S. E. James, Frankfort, J. W. Thompson, Paducah, D. W. Yandell, Louisville, J. S. Bruce, L. Beecher Todd, Lexington.

Contributions to the professorship sent to either of these gentlemen will reach their proper destination. The many pupils of this illustrious man in whose memory it is proposed to create the professorship will, we make no doubt, be glad of an opportunity to show in this most delicate and fitting way their appreciation of the life and labors of the great Pennsylvanian.

The American Practitioner.

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> Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Communications.

THE PATHOLOGY OF INEBRIETY,

AND THE IMPORTANCE OF ITS EARLY RECOGNITION AND REPRESSION IN ITS INCIPIENT STAGES.*

BY EDWARD C. MANN, M. D.

Physician to Sunnyside, a Private Hospital for Nervous and Mental Diseases, Inebriety, and the Opium Habit.

In considering the subject of the *pathology of inebriety*, we must look for a moment primarily at the complexity of the nervous system, its manifold functions and its extensive distribution. We have the *cerebro-spinal system*, consisting of the encephalon, the spinal cord, and the encephalic and spinal nerves, and the *organic system of nerves*, consisting of the pneumogastric or vagus nerves, and the great sympathetic system including the vaso-motor system of nerves. In inebriety the primary morbid changes are not in the nerve elements themselves or in the interstitial connective tissue of nerves, except in those who inherit a structurally degraded nervous system, but it is initiated by altered quality of blood and secondary disturbance of nerve function. The interference with the proper and well-balanced working of the nervous system in inebriety depends primarily upon the supply of blood to the different nerve centers being neither definite in amount or uniform in quality. The proper nutrition of such centers and their normal molecular mobility is at once disturbed, and the maintenance of the accustomed degree of excitability in the different nerve centers is interfered with, and we get at once an exaltation, diminution or other perverted activity of the whole nervous system. The variations taking place in the nutritive condition of the nerve centers involve not only an altered action in that part, but a perverted functional activity of all other related parts. Thus in inebriety we get the most varied grouping of abnormal phenomena traceable to altered action in the nervous system, and having for a starting point some perverted functioning of one or more nerve centers. We have, in inebriety, morbid conditions of a progressive type ending in special forms of atrophy and degeneration, showing themselves more especially in the nerve cells of the brain, spinal cord, or sympathetic ganglia. Clinically, in the wide and varied phenomena of inebriety, we meet with perverted sensation and perception; perverted emotion and ideation; perversions of consciousness; perversions of motility; nutritive or trophic changes; perverted visceral actions. In the class of *perverted sensation* and *perception*, we have the special senses interfered with. In the class of *perverted emotion* and *ideation*, we have a long range from mere emotional display to actual insanity. In the class of *perversions of consciousness*, we see drowsiness, stupor, and coma. In the class of *perversions of motility*, we see tremors, twitchings, spasms, both tonic and clonic, and also, co-ordinated spasms, as in the epileptiform attacks of inebriates, paralysis, and defective co-ordination of muscular acts. In the class of *nutritive or trophic changes*, we meet with degeneration of brain tissue itself, inflammation and congestions of the lungs, or as hemorrhages into these organs, blanching of hair, and altered pigmentation of the skin. In the last class of *perverted visceral actions*, we see exalted activity of the stomach, intestines, bladder, and heart, and, in women, of the uterus. Inebriety is a disease caused by heredity; by defective nutrition; by emotional shocks; by physiological crises; by visceral diseases, and by structural changes in the brain very often. We may have anemia of the brain in inebriety, with the blood in the capillaries deficient in quantity and defective in quality; we may have secondary atrophy of the brain; we may have hemorrhage into the substance or cavities of the brain; we may have hyperemia of the brain with increase of quantity of blood in the capillaries, with symptoms either of excitement or depression. We may have edema of the brain with infiltration of the brain and pia mater with serum, especially when the case of inebriety is associated with Bright's disease. The cerebral substance itself is not infiltrated. In these cases we see a slow diminution of mental power and motor force. We may have softening of the brain from vascular obstruction, depending on vascular degeneration causing thrombosis, or valvular disease of the heart causing embolism. The former in inebriates is the usual form, and it is associated with chronic alcoholism and Bright's disease. There are generally the premonitory symptoms of mental deterioration, numbness, pains in the limbs, and pains in the head, in the brain-softening of inebriates. Subsequently we see mental dullness, defective perception, drowsiness, loss of memory, slight delirium, emotional attacks, headache, articulation and hand-writing bad, the delicate motor acts badly performed, and loss of physical power. Dementia may end the scene.

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*Read at the Annual Meeting of the New Jersey State Medical Society at Atlantic City, June 13, 1883.

Inebriety is a disease exhibiting certain essential psychic and physical signs. It is a disease in which the victims are all more or less irresponsible, as are the insane. It is a disease in which the tone and power of the nerve centers are lost. There is generally, and I believe always, could we get at the true family history, an inherited neuropathic constitution; but here, as in insanity, it is in the higher classes very difficult to elicit the whole truth from the relatives. It is a disease, perhaps more than any other excepting insanity, requiring for its cure *time* and long-persistent hygienic influences to restore the normal vaso-moter condition affecting the nutrition and circulation of the brain and nerve centers.

The importance of the early recognition and the repression of inebriety in its incipient stages has thus far received very little or no attention, even at the hands of those who have written extensively on the subject.

Inebriety is a psycho-neurosis, which either attacks an intact brain, or more frequently a brain not intact but predisposed to the acquisition of inebriety by hereditary or acquired vices of conformation or nutrition.

It has an early prodromic, curable stage. The same remarks, which in my writings on insanity I have applied to that disease, apply with equal force to the disease of inebriety, that there is an early, neurasthenic, equivocal state, differing but little from perfect sanity, but which is the earliest phase of mental alienation, and if recognized by the general practitioner, and promptly treated in this incipient stage, subsequent trouble might be averted. A very careful study and comparison of the two diseases of inebriety and insanity has shown conclusively that in both alike we have early premonitory symptoms which, unrecognized and unchecked, lead or lapse into active inebriety and dipsomania upon the one side and into insanity on the other. They are grave psychical symptoms, and should lead to an early diagnosis by an intelligent physician. As I shall show presently in detail, in this early stage of inebriety we have general malaise, impaired nutrition and assimilation; muscular atonicity changing the facial expression, neuralgia is present. There is often cerebral anemia, and there is mental depression and sleeplessness. There are profuse perspirations and a loss of the normal elasticity of the skin. There are periods of marked mental inactivity, alternating with a hyper-activity of the mental functions. There is physical and mental prostration, muscular feebleness, and mental dullness. There is, or may be, vertigo and confusion of mind also.

Inebriety to-day is a neurotic affection, preceded by a distinct interval of morbid nervousness. In the American of to-day there is a greatly augmented susceptibility to the action of stimulants and narcotics. This is due to the increasing complexity of the nervous system and to the increased complexity of life. Our brains are finer in structure, more subtle in mechanism, and also more unstable than were those of our ancestors. The conditions of modern life, acting on our complex and excitable nervous systems, cause our increased nervous diseases, prominent among which stand inebriety and insanity. Given in a certain case an inherited neuropathic constitution and dipsomania will appear on the exhibition of the slightest exciting causes. This constitutes an important feature of the disease.

Cosmical influences operate with great readiness in producing an outbreak of the disease in persons thus predisposed to it. The phenomena of nervous exhaustion which one who inherits this neuropathic constitution generally, according to my investigations in inebriety, exhibits before the actually developed disease, are certain functional disturbances of the whole bodily organism. There is a relaxation of the general muscular tone which gives rise to partial or total loss of voice, generally partial, the chest tones being weak; relaxation of the facial muscles, giving the face an enervated, spiritless appearance; relaxation of the ocular and orbital muscles, giving a tired, worn-out expression to the eye and this same relaxation of the general muscular tone may produce involuntary defecation and micturition. There is cardiac stimulation and palpitation, the palpitation being the more prominent. Irregular action of the heart best expresses this state I refer to. If you command the individual to hold out his hand and arm perfectly straight before him, with the palm downward, you will perceive that the hand trembles visibly. This is a very good test for the general relaxation of muscular tone all over the body, and a very simple one. The arm is to be held out straight from the shoulder. There is vocal tremor; trembling of the legs, especially about the knees; atony of the digestive, excretory and other organs, producing a general malaise; idiopathic fits of perspiration and rigors. There is great irritability of the cerebral cognizant centers, evinced by fright at slight causes. These persons have fears of inability to perform certain acts, and the fear of involuntary performance. It is the fear of inability to speak loudly which is at the root of the phenomena of aphonia exhibited by neurasthenics who are destined to become inebriates; to articulate clearly, which gives rise to the vocal tremor; fear of not keeping hand or head steady, which makes them tremble. Respecting their cerebral actions, they are afraid of not being able to collect their thoughts; if brain workers, that they shall not write or speak in eloquent language. There are muscular twitchings, a hasty, imperfect utterance, and a quick, agitated manner. If, from this simple state of neurasthenia or nervous exhaustion, our patient passes into the graver state of hysteria or hypochondriasis, according as it is a female or a male, we shall now observe more complex phenomena, which may or may not usher in the paroxysm of dipsomania.

There will be local pain, due to visceral disease. There will be pains referred to parts not diseased, due to transference of the nerve force or vascular disturbance of nerve centers. There is diffuse hyperesthesia, due to this vascular disturbance of nerve centers. There is defective functional action of viscera, due to reflex action. There are disordered muscular movements, due proximately to reflex action or vascular disturbance of nerve centers. Among the different forms of trembling occurring in the state of nervous exhaustion I omitted one peculiar feature, which is an inability to keep the head steady when walking. The head trembles only in an antero-posterior direction. In this first stage fear lest muscular and cerebral actions can not be performed effectually prevents their proper accomplishment.

Aside from heredity, excessive sexual indulgence, loss of blood, excessive mental and muscular exertion, or any painful disease may be the cause of the neurasthenia or nervous exhaustion which ends in inebriety. Excessive indulgence in tea and coffee-drinking may also induce it (nervous exhaustion), owing to the overstimulation of the nerve centers by the active principles of the tea and coffee. We can tell by the tone of the tissues pretty correctly as to the state of vigor or weakness a person is in. If the brain cells are normal their function, that is, thought, is normal. Function depends upon cellular health. The heart, the spinal cord, and the brain all functionate abnormally in the neurasthenia of inebriety, and all the forms of fear of which I have spoken are the characteristics of debility of brain, due to general failure of the normal appropriating power of the brain. These morbid fears and dreads, these morbidly-colored perceptions, conceptions, and misconceptions, the timidity, irresolution, irritability of manner and speech, all foreign to a healthy person, are the essential psychic signs of the neuropathic condition of inebriates. There is a decided change from the normal standard in the manners of thought, feeling, and movement of these persons. There is mental and nervous instability and irritability analogous to that seen in the neurasthenia or nervous exhaustion preceding insanity, and the very similarity stamps indelibly the kinship of the two diseases to any unprejudiced observer. The psychic symptoms in both diseases are alike the symptoms of inadequate nerve nutrition, and in the brain centers there are instability, irresolution, timidity, dread, and fear, morbid and groundless suspicions, hallucinations and delusions, all abnormal, and not found in health. Positive hallucinations and delusions appear when the inebriety or dipsomania has become actively established.

What physician of experience has not witnessed, in the neurasthenia of the dipsomaniac and insane man alike, that change in the mental character in which irresolution has replaced former decision of character? The psychical timidity and manner are precisely the same in both diseases, and as active insanity or active dipsomania or inebriety appear well developed, all these psychical characteristics of the prodromic neurasthenia increase in degree. I would therefore insist on the existence of this neurasthenic stage of inebriety as one of the most important points in the pathology of the disease, a stage which the general practitioner should regard as the danger signal of active dipsomania not far off, although *the irresistible craving for alcohol which constitutes the morbid condition of inebriety* may not yet have been actively displayed. Now is the time to prevent the neurasthenia of inebriety from lapsing into the actively developed disease.

The constant current of electricity, as centric galvanization and cerebral electrization will do much to antagonize the symptoms of this early stage, while attention to the mental hygiene, cod-liver oil, with the phosphates, strychnia, quinine, a combination of iron, phosphorus, zinc, and strychnia, the bromide of zinc and the chloro-phosphide of arsenic, are all indicated as the circumstances and symptoms of individual cases may indicate both to combat the disease and build up and restore the shattered nervous system.

The neurasthenia of cerebral syphilis is almost an unexplored field, but I am convinced that it frequently plays an important rôle in the production of inebriety. It has a peculiar set of symptoms, consisting of deep-seated headache of great intensity, with nocturnal exacerbation and of long duration, vertigo, mental dullness, temporary disorders of the special senses, momentary impairment of the intellect, recurring paralysis, epileptiform attacks coming on after the age of twenty-one years, and muscular feebleness. These are a perfectly diagnostic set of symptoms when associated together, and I have known them more than once, in professional and business men, to be the direct cause of inebriety and also the opium-habit.

If active treatment of the neurasthenic stage of inebriety is delayed, the practitioner will soon have the opportunity of studying the natural history of a case of dipsomania. If an observant man, he can see clearly this initial stage of the disease, if the case is brought to his notice, manifesting itself in the mental movements, in the voice and walk, and in the functional nerve irritability and the inertia of his patient, and this in the earliest and most curable stage of the disease. In those inheriting the neuropathic constitution the phenomena may be observed from earliest infancy, commencing with the sleeplessness and night terrors and emotional outbursts of early childhood, the train of morbid phenomena becoming gradually intensified as the child grows up, and becoming well marked at the age of puberty, when a disposition to recurrent mania or its analogue, recurrent fits of inebriety, may appear. These are vaso-motor neuroses with recurrent cerebral hyperemia, the outward expression of which state may be either the development of a true periodic insanity or a periodic dipsomania, as the case may be. The intellectual centers will be involved in either case in all probability. The phosphates and cod-liver oil in the form of hydroleine should be fed to such children from earliest childhood as a religious duty, so that nature, if possible, may restore herself to the normal standard, and overstimulation of the brain in too premature education of such children be avoided with like care. If the unstable brain tissue is injured in such children by a forcing process of education, insanity or inebriety will prove surely the avenging Nemesis of such folly.

The great danger to-day to our children as Americans is, that the too great activity and susceptibility of the nervous system, by modifying the nutrition of the brain centers and stimulating their growth unduly, tends to induce brain exhaustion and brain-tissue degenerations. This is particularly true of the refined and cultivated classes, where, by premature and stimulating processes of education, an elaboration of cerebral structure is forced and the functional activity of the brain in children hastened, overstraining the brain centers at their nascent period, thereby dwarfing and weakening them, disturbing the balance of mind by seriously interfering with the natural sequence of the evolution of the brain centers, and preparing the child to fall an early victim to some of the modern nervous diseases.

Careful building up of the nervous system and a careful direction of the mode of life, and observance of the rules of mental hygiene, may, even in children who inherit the neuropathic constitution, restore functional energy, antagonize the morbid psychosis, build up the nervous centers, and induce at least a moderation, and perhaps a total diminution of the neuropathic condition that the child inherited.

Preventive medicine is a wide field for study, and by such study dipsomania and insanity are to be prevented and oftentimes stamped out.

I have endeavored to be as brief and concise as possible in these remarks on the pathology of insanity and the importance of the early recognition and the repression of inebriety in its incipient stages. The fully developed disease exhibiting the great nervous irritability and restlessness, the unnatural sensations, the uncontrollable desire for alcoholic stimulants and the disposition to frequent fits of intoxication are familiar to all here present. The great salient point to me in the pathology of the disease—inebriety—is, there exists a departure from a healthy structure of the nervous apparatus, and that it is this abnormal condition of the centric nervous system demanding stimulants that is essentially the disease; that inebriety and dipsomania are governed by the laws which govern mental diseases generally. How far and to what degree the phenomena of inebriety are controlled by cosmical influences, such as electrical phenomena, lunar attractions, velocities and directions of winds, geological formations, elevations above the sea level, the approaches of storms, barometrical changes and temperature, are most interesting questions, for the complete elucidation of which time is yet required: the diatheses and cachexias, reflex excitability, previous diseases, traumatic causes, overstimulation of the brain in school-children, puberty, the menopause.

The question as to whether there are *any* cases in which the nerve tissue is sound and free from defect; what per cent of the higher and middle classes, as compared with the same number of the lower and laboring classes, exhibit the disease of inebriety; the effect of menstruation upon the disease, are all very interesting points in the pathology of inebriety upon which I should like to dwell, did time permit. Accumulated results of experience indicate, however, decisively, that the propensity for drink in this disease of inebriety, when under the influence of exciting causes, arouses the appetite, overcomes the will, blunts the moral sensibilities and makes every thing else subservient to its demands. The will-power of the individual is overborne by the force of the disease precisely as in mental disorder; and just as the periodically insane man has free intervals of sanity, just so does the dipsomaniac have free intervals of sobriety when the irresistible craving for stimulants passes away, to return again, however, with the next paroxysm unless the proper remedial measures are applied. The great medico-legal question, and one which needs to be clearly demonstated to the judiciary, is this: If this morbid craving for stimulants is clearly traceable to a brain condition, what is the mental responsibility of an inebriate? To me, partial responsibility in the disease of inebriety is as clearly demonstrated as any other mental condition.

The study of the pathology of inebriety would lead us, if carried out to its fullest extent, through inquiries into the physiological action of alcohol with its stage of vascular nervous excitement, the cerebro-spinal changes induced, the fall of animal temperature, the collapse of the volitional nervous centers, modification of animal function and structural degeneration. The study of the functional disease from alcohol would reveal the alcoholic dyspepsia, the sensory disturbances from alcohol, the vascular changes in the skin, alcoholic thirst, and early systemic failure. The organic disease from alcohol would show us fatty and diseased hearts, weakened and diseased blood-vessels, alcoholic phthisis, diseases of the liver and kidneys, diseases of the eyes, insomnia and serious deteriorations of cerebral structure itself, which often ends in mental disease. The nervous diseases would reveal, aside from insanity, epilepsy, paralysis, and delirium tremens. The epilepsy which occurs in offspring, as the result of inebriety in the parents, reveals clinically epileptic idiots whose intellectual faculties have never been developed, epileptics who are imbecile or demented, epileptic maniacs who, without obvious disorder of the mind, when epileptic fits are coming on are irritable, morose, malicious, and dangerous, and sometimes perpetrate fearful crimes, and finally a class of epileptics whose intellects are not impaired. The pathology of these epilepsies would appear to depend upon failure of the proper nutrition of cerebral tissue of the fetus, so that during embryo life the brain of the infant undergoes pathological changes which induce both deficient moral power and epilepsy. The ultimate condition of mind consists in the due nutrition, growth, and renovation of the brain cells. Inebriety produces a change in the chemical composition of the cerebral cells from the standard of health, which is the foundation of organic disease, as it prevents and interrupts healthy function. Irritation, exhaustion, and depression, apoplectiform and epileptiform attacks all appear, and subsequently atrophy and induration of the brain and thickening and infiltration of the membranes. The nerve cells may also be the seat of granular degeneration. We may have chronic meningitis with impairment of memory, dullness of intellect bordering on dementia, tottering gait, hesitating, slurring speech, and other symptoms indicative of gradually progressing paralysis. Slight attacks of cerebral hemorrhage play a very important part in the production of premature mental decay in inebriates, and they are directly due to hypertrophy of the left ventricle of the heart, chronic diseases of the kidneys, and the degenerated cerebral arteries. There is a sub-inflammatory irritation which causes the arteries to lose much of their elasticity and to become permanently wider, longer, and more tortuous. The strong left ventricle and inelastic arteries combine to prevent the wave of blood sent to the arteries from being properly equalized, and consequently the smaller arteries of the brain, which are normally thinner than the arteries of the other parts, and which are degenerated, receive the impulse from the heart's jerks, and being thus diseased and fragile—perhaps dilated and aneurismal—give way. From the date of such an occurrence the inebriate is an altered man and never recovers himself.

Finally I would speak of the great importance of the recognition of the mental condition that in inebriates is the precurser of decided insanity. I have had the opportunity of studying carefully several such cases who had from time to time entered my private hospital for treatment, and many of whom I have been so fortunate as to restore to home and society. The clinical manifestations which I have observed in these cases have been depression, unwonted excitability, disregard of the minor proprieties of life, a change coming over the warmest affections, quick changes and rapid transitions in the current of the feelings, sleeplessness, and a complete change of character and habit; the person meanwhile entertaining no delusions, but occasionally losing his self-control, the general acts and manner at such times being strongly expressive of the inward emotion. There are intervals of perfect calmness and self-control, during which the person clearly discerns his true relations to others and even perhaps recognizes the influence which the incipient disease exercises over his feelings and actions. Finally, in those cases where insanity appears, we see the utter downfall of the intellect manifested by the fury of mânia, or the moodiness, suspicion, depression, and impulses toward self-destruction or melancholia. All these are the successive links forged in the chain of the insanity of the inebriate, the study of which is full of interest not alone to the student of mental pathology, but to everyone who desires to lead the wandering mind out of the darkness and mazes of disease back into the light of reason.

BROOKLYN, N. Y.

SAYRE'S SHORT SPLINT IN INTRA-CAPSULAR FRACTURE OF FEMUR.

BY W. M. FUQUA, M. D.

I have recently had very gratifying results from the application of the weight and pulley in a case of intra-capsular fracture at the neck of the femur, with the effect of inducing not only great comfort to the patient, but also the rapid absorption of the synovial accumulation within the joint. Subsequently the limb was adjusted with Physic's modification of Dessault's splint, the patient making a good recovery in eight weeks, with useful joint, and but little shortening. It occurred to me while treating this case, that it was not requisite to confine the patient to bed longer than ten or fifteen days, and after this to firmly adjust a well-fitting "*Sayre's short splint*," and place the patient on his feet, having first lengthened the sound leg by the addition of an inch cork sole. With this appliance and a crutch and cane the patient walks about just as in a case of chronic disease of the coxo-femoral articulation. If the tendency to eversion, or possibly to inversion be great, then "*Sayre's long splint*" would be required, night extension to be made by weight, and the splint to be used during the day.

I am clearly of the belief that the "do-nothing" plan of the older surgeons, sanctioned by modern authority, is wrong, and should be abandoned. The expectant plan, that had expression in supporting the limb with pillows, etc., grew out of the idea that any plan of treatment looking toward osseous union was fallacious. Experience has shown, however, that bony union can be had, and I take it that all diligence should be used in endeavoring to bring about this result. From a great want of similarity in the prominent symptoms in different cases, viz., degree of shortening, eversion or inversion, crepitation measurement, preternatural mobility, etc., I am convinced that many of these fractures are through the inter-trochanteric lines, and therefore, amenable to the reproductive influence of the periosteum.

Were it true that no union was possible, the exhaustion and bed-sores incident to confinement of long duration, and possibly with synovial or purulent accumulation, should, I think, lead us to try this proposed plan. So far as I am informed, I am the first to suggest Sayre's splint for this grave fracture, and indulge the hope that it may prove to be of good service, not only in enhancing comfort but in securing bony union.

HOPKINSVILLE, KY.

A COCKLE-BURR IN THE WINDPIPE.

BY J. N. OUTEN, M. D.

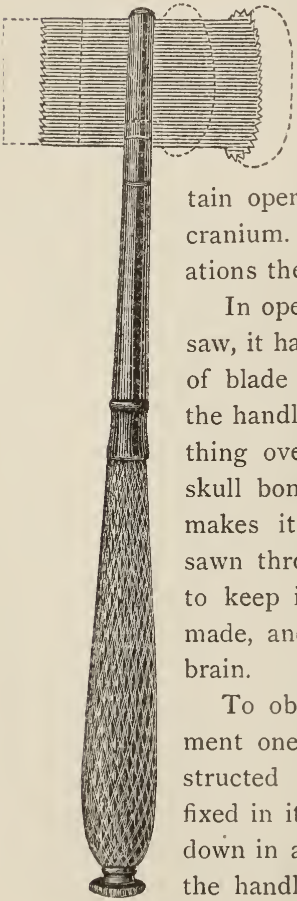
Seeing in the March number of the AMERICAN PRACTITIONER an article on "Foreign Bodies in the Air-Passages," leads me to report the following case, which I met with many years ago:

In 1854, a boy, aged seventeen, while cutting corn-stalks in a field, made the, to him, pleasing discovery that he could whistle through his windpipe while keeping his mouth open. He was practicing his new accomplishment as he pursued his work, when a cockle-burr was knocked into his larynx by a lick from his hoe. The usual symptoms instantly followed. A physician saw him the next morning, but for some reason made no effort to remove the burr. Some hours after the patient was brought to me. Thinking the foreign body might have lodged just under the epiglottis I introduced my finger down to that point, and became at once satisfied that I had touched the burr with the tip of my nail. The maneuver cut off what little air the boy had been getting, and he sank seemingly lifeless to the floor. When he sufficiently recovered his breath I repeated my exploration with the result this time of giving the burr a lucky turn and fortunately causing it to be expelled. Almost immediately after the patient could speak in a whisper. He soon regained his full voice and was well. A short time after this I saw the report of an almost similar case made by the late Prof. Paul Eve, of Nashville, Tenn.

HICKMAN, KENTUCKY.

COWGILL'S HEY'S SAW.

BY WARWICK M. COWGILL, PH. B., M. D.



I wish to call the attention of the profession to a modification and, I hope, an improvement I have made on Hey's saw.

Hey's saw, while not an instrument of daily use is, notwithstanding, a very important instrument in certain operations—particularly in those upon the cranium. It is in especial regard to these operations the modification is made.

In operating on the skull with the old Hey's saw, it has one decided fault: that is the length of blade from saw teeth to the attachment of the handle. The length of this blade is something over twice the average thickness of the skull bones. This fault of the old instrument makes its use fraught with danger. Having sawn through the bone it is almost impossible to keep it from slipping through the opening made, and thereby injuring the meninges and brain.

To obviate this fault and make the instrument one of much less danger, I have so constructed it that the blade, instead of being fixed in its position to the handle, works up and down in a slot, which is adjusted by a screw in the handle. By this means the length of the blade can be regulated to the thickness of the bone to be sawn through, making it impossible for the blade to slip through and injure the brain. In a few words—it is to accomplish the same advantage for the saw that Gault's conical trephine has accomplished over the old cylindrical trephine.

I think the field of usefulness for the instrument by this modification is much widened. The blade can be lengthened as well as shortened, of course. This makes it a very convenient instrument in working in deep cavities in resection and also in removing sequestra.

The instrument is made by George Tiemann & Co., New York, and by Tafel Bros., Louisville, Ky.

Paducah, Ky.

Reviews.

Student's Manual of Electro-Therapeutics. Embodying Lectures delivered in the Course on Therapeutics at the Woman's Medical College of New York Infirmary. By R. W. AMIDON, A. M., M. D. New York: G. P. Putnam's Sons, 27 and 29 West Twenty-third Street. London: 25 Henrietta, Covent Garden. 1884.

In the foregoing volume the author has embodied what was much needed by both the general practitioner and student, an epitome of such knowledge of electricity as is required in the treatment of disease. He gives that amount of the subject of electro-physics necessary to the proper understanding of the construction and use of medical batteries; he describes the "commoner gross physiological effects of electricity;" sketches the manner of electro-diagnosis, and "the kind of electricity and its application in different pathological states." And he has done all this well and in small space.

It goes without saying that, coming from the press of the Putnam Sons, the mechanical features of the work are all that could be desired.

The Hip and its Diseases. By V. P. GIBNEY, A. M., M. D., Professor of Orthopedic Surgery in the New York Polyclinic, etc. 8vo., pp. iv. 412. New York: Bermingham & Co. 1884.

Thirteen years of conscientious and laborious application given by Dr. Gibney to the study of hip-joint affections, in a hospital especially set apart for the crippled, has led him very properly to embody the results of his observations in a book. During the period stated the author has seen more than two thousand cases of hip-disease, and of most of these he has kept a minute record. With such unsurpassed, if not absolutely unequaled, opportunities for the practical study of the affection of which he treats one is naturally led to look for much from the writer; and it is a pleasure to say that the author has produced a work which is in many respects the most instructive volume on diseases of the hip yet given to the public.

This much in praise.

When a second edition is called for, which we predict will be soon, Dr. Gibney will, we are sure, be able, without the suggestive pen of the reviewer, to see and correct defects in style and errors in English, besides many details which could well be omitted in the present volume. The externals of the work should also be made to correspond more nearly to its contents.

Practical Manual of Diseases of Women and Uterine Therapeutics. For Students and Practitioners. By H. Macnaughton Jones, M. D., M. C. H., F. R. C. S. I. & E. New York: D. Appleton & Co., Bond Street. 1884.

It is positively refreshing in these days of professional bookmaking to meet an author who adds to a practical knowledge of his subject the power to present it in a condensed and perspicuous way. If only such men wrote, the number and size of medical books would be strikingly small.

The author of the manual before us has long been known as a man of a practical and very independent turn of mind, and capable of expressing himself in a forcible way in the best English. The present work possesses the qualities which would be expected in a writer of such parts. We commend it as filling the daily needs of the general practitioner, and being in every sense a most valuable addition to his library. Bearing the imprint of the house of Appleton & Co. affords ample guarantee that the paper and press-work are all that could be desired.

An Introduction to Pathology and Morbid Anatomy. By T. HENRY GREEN, M. D., London. Fifth American, from the sixth revised and enlarged English edition. With one hundred and fifty engravings. Philadelphia: Henry C. Lea's Son & Company. 1884.

We make a note of the appearance of the fifth American edition of this work, not to criticise, but rather to state that it has undergone careful revision, and in the main, at least, has been brought up to the times. Had the chapters on tuberculosis and phthisis been as well done as are those on vegetable parasites, the etiology of disease, tumors, pyemia and septicemia, contributed by Mr. Stanley Boyd, we should pronounce the volume unequaled in its way. As it is, we know of nothing superior to it for students and the general practitioner.

Medical German. A Manual Designed to Aid Physicians in their Intercourse with German Patients, and in reading Medical works and publications in the German language. By SOLOMON DEUTSCH, A. M., Ph. D., author of Letters for Self Instruction in the German Language; Practical Hebrew Grammar, etc. New York: J. H. Vail & Company, 21 Astor Place. 1884.

To such physicians as are studying the German language, or who practice among Germans, this book will prove a real help. Besides containing a very large collection of words relating to every department of medicine, it gives imaginary conversations between patient and physician, and concludes with a carefully prepared German-English index.

It is made the handier by being bound in flexible covers.

Clinic of the Month.

On Abdominal Surgery.—Lawson F. Tait, Esq., F. R. C. S., delivered an address on this subject before the Canadian Medical Association, at Montreal, in April last, from which we extract the following: The first operation for the removal of an ovarian tumor was performed unwittingly in 1701, in a Scotch village, by Robert Houston, who began a tapping, and finished by making a successful ovariotomy. It was not until 1809, eighty-six years after Houston's case was published, that his example was imitated, and even then it was not in Europe, but in the fresh soil of the backwoods of Kentucky the young seedling obtained its first full growth, and from that time and from this country dates the history of abdominal surgery. But how slow the growth! In 1863, I heard my master, the Professor of Surgery in the University of Edinburgh, settle all this vast field of human progress in the few words, "Abdominal surgery is abominable surgery." Syme, the greatest surgeon by far with whom I have ever come in contact, shared the views of his colleague in this matter, and I fear that in both of them the sentiments originated far less in the merits of the question before them than in their mutual dislike (almost the only sentiment they had in common) of John Lizars, who, having read McDowell's manuscript when it was sent to John Bell, was immensely struck by the success of the heroic Kentuckian, and was desirous of following his brilliant example. Most unfortunately for humanity, the success of Lizars was of a very doubtful kind, and abdominal surgery had to wait for the advent of Dr. Charles Clay and Mr. Isaac Baker Brown. The story of the latter brilliant and unfortunate surgeon is now a thrice-told tale, and I can only repeat here what I have said at length elsewhere, that his disastrous downfall was a misfortune for humanity, delaying, as it did, the progress of abdominal surgery for fully a quarter of a century. The whole question of this progress lay in the peculiarly narrow issue as to whether the pedicles of ovarian tumors should be dealt with inside the peritoneum or outside it. Here again the new country was first in the race, for between 1820 and 1830 the decision in favor of the intra-peritoneal treatment was given in America in such a way that the question ought never to have been reopened. The arbitrament of abdominal surgery between 1866 and 1876 was left in the hands of a man still living, and he carried through his practice a mortality so heavy as to be absolutely prohibitive of fresh enterprise. Mr. Baker Brown left off practice in 1866, with a mortality of ten per cent with the cautery; while, after operating on a thousand cases, Sir Spencer Wells had a mortality of twelve per cent with the ligature in the last hundred; and over the whole thousand the mortality was exactly twenty-five per cent. With such results as these, the marvel is not that the conservative surgeons cried out twenty years ago that the craft was in danger, but that the removal of ovarian tumors ever became an accepted operation at all.

As I have said over and over again, and as I shall never tire of saying, to Keith is due the whole credit of the modern development of abdominal surgery, and it has ever seemed to me specially hard that while wealth and a title have been the lot of the man who had done nothing but obstruct progress, to the author of our present proud position nothing has come save a good deal of misrepresentation and abuse.

In 1878, the doctrines and practice of Lister, after twelve years of preaching on the part of their author, had penetrated to London, and were taken up by Sir Spencer Wells and his assistants. I had practiced all the details in their ever-varying form, as recommended by Mr. Lister, from 1866 onward, and gave them up, one after the other, as I found they disappointed and hindered me. Finally, I gave the spray and its adjuncts a long and complete trial, a trial far more careful in its details than any thing I ever saw elsewhere, this trial extending over three years. I have published in detail the disastrous results of this experiment, and at last I gave up all these unnecessary dangers, and since January 7, 1881, my practice has been entirely free from all these details. Since then my example has been followed by Dr. Keith, Dr. Bantock, and by my colleague, Dr. Savage, and the only surgeon now who uses the Listerian details for abdominal surgery is Mr. Knowsley Thornton. He still claims for Listerism the most of our present progress, in spite of the fact that Keith, Bantock, Savage, and myself have far better results without Listerism than Mr. Thornton has with it. Mr. Thornton went so far recently, in a communication to Dr. Bigelow, which that gentleman published, as to say that his (Mr. Thornton's) bad results in hysterectomy were due to the fact that in this operation the Listerian details could not be effectually applied. But the facts of the practices of Mr. Thornton and Dr. Bantock, the two surgeons to the Samarian Hospital, settle the question when they are contrasted. Mr. Thornton uses the Listerian details for hysterectomy as well as he can, and in twelve cases he has had five deaths, while Dr. Bantock does not use the Listerian details at all, and in twenty-two cases he has had only two deaths. The explanation of the difference will be evident to every one who has seen both of these gentlemen operate. To see Dr. Bantock do a hysterectomy is a lesson in surgery, and one from which I learned a great deal.

To see my own work, I have been honored with the visits of a large number of surgeons from this continent, some of whom I see here now. I believe they one and all came with the belief that they would find I had some secret antiseptic agent, the use of which was the explanation of my success. If I have such an agent, it must be of universal existence in nature, for I have made some of my visitors take water from the tap and put it into the basins for the sponges and over the instruments and into the abdomen. I have made them drink it, and have offered it to them for analysis, and so far, I have not been detected in any exercise of magic. My visitors always ask to what I attribute my success, and I answer that I can not tell. They frequently suggest that it is climate, and my answer is that our climate is the most variable and uncertain, the worst in the world. It is not fresh air, for the great majority of my operations, and always the worst, are done right in the middle of a large manufacturing town.

If I may formulate my own answers, they would be briefly to this effect. I have given up my life to this work and I engage in no other kind of practice; therefore, I have a constant weekly experience of five or six of these operations, sometimes as many as eight or ten. I pay the most minute attention to every detail, and maintain an absolute rule of iron over my nurses and patients. I will not, if I can avoid it, operate in a private house, for there I have no control over either nurse or patient, still less over foolish friends. I can best illustrate the extent to which I carry discipline by telling an incident which occurred recently, of a kind of which I have had a few, but not many experiences. For my private hospital I have a rule that when a patient is admitted she must go to bed immediately. A lady with an ovarian tumor arrived after a journey of some hundreds of miles, and was asked by the nurse told off for her to go to bed. She said she would not do so till she had seen me. The nurse assured her that I would not come near her till she was in bed. The patient remained obstinate, and I sent a message to her that she must either go to bed or go home again, and she elected to do the latter, with much satisfaction to myself. She doubtless thought, and you may think, the rule in question is an absurd one, but the absurdity is only on the surface. It is a test of the patient's obedience and confidence in me, and I know very well that with a patient who begins by disputing my orders and doubting the wisdom of my directions I never could get on, and therefore it is better for both that we should have an early parting. My nurses I always train myself; in fact, I will not have one who has had previous experience, for I know very well that such a woman will inevitably, to save herself trouble, do something in a way she has seen done elsewhere, and probably for some purpose altogether foreign to my intention, and will therefore become to me a source of danger and annoyance.

Finally, I give great personal attention to cleanliness in every detail of my work. I trust no nurses or servants without overlooking; and I am constantly and at unexpected times turning up carpets, taking down shelves, and routing out cupboards. In this way and by a process of weeding I have obtained a large staff of good servants, and have founded a large establishment in which every available precaution is secured. I can give no other reasons than these for my success, and probably they will commend themselves to you.

There are, however, some causes intrinsic to the work itself, from which the success has sprung to a large extent, of which a few words may here be said with advantage. The first, of course, is the discontinuance of the clamp, of which I have said a great deal elsewhere. Whatever Sir Spencer Wells may say to the contrary, neither with nor without Listerism would any body go back to the clamp. But the curious thing is that there are recent experiences in hysterectomy which would make it appear that it is not so much the clamp which has been to blame as Sir Spencer Wells's way of using it. Hysterectomy must always be a more serious operation than ovariotomy. Yet Dr. Bantock is now obtaining better results in removing the uterus with a clamp than Sir Spencer Wells ever got in removing simple ovarian tumors; and we must bear in mind that Sir Spencer always insisted that he used the clamp for his simplest cases—cases with long and easy pedicles.

Puzzling over the mysterious and startling contrast, I went to see Dr. Bantock operate, and among other things I found that he had given up using perchloride of iron for the purpose of tanning the stump. I asked him why he had done so, and he told me he was quite sure the use of the perchloride of iron had added greatly to the mortality of the clamp, because with a thick pedicle secured by the clamp it is impossible to close accurately the abdominal wound and prevent draining into the cavity. I did not at once accept Dr. Bantock's explanation, but I determined to use the perchloride of iron no more. Like every body else, I was prejudiced in favor of the statement made by Sir

Spencer Wells, that a putrefying stump would poison the wound, and therefore I could not make up my mind to allow it to remain without some kind of interference. Years ago, in blaming the clamp for our high mortality, I had pointed out the likelihood of this incomplete closure as being one of the causes, if not the chief cause of death. But I certainly did not suspect the perchloride of iron as being the fatal agent. A few days after my interview with Dr. Bantock I had to perform a hysterectomy, and I dressed the stump with crystals of thymol. The patient died of peritonitis on the fourth day, and that the thymol had trickled into her peritoneum and had poisoned her we had proof enough. Since then, I have done hysterectomy twice without dressing the stump at all, and the patients are at present perfectly well. It will be curious, indeed, and no less instructive, if we find that Dr. Bantock is right, and that the use of perchloride of iron—the only contribution Sir Spencer Wells has ever made to abdominal surgery—should turn out to be the cause of his tremendous mortality. In any case, it is a remarkable example of how absurdly we are all governed by *à priori* statements—statements absolutely void of any arguments in support of them, but having been made by some one with an authoritative name and position, are accepted without doubt. If Dr. Bantock's brilliant results are obtained by others in the same way, then we have been going on destroying women with perchloride of iron merely because Sir Spencer Wells said we should use it.

As the whole aspect of abdominal surgery is at the present moment controversial, as the progress and practice of this part of our art form the chief objects of my life, you need not be surprised if I have made this address somewhat of a polemic. The greatness of the opportunity, the fact that an address given to you will be read where mere utterances of mine would be passed by, obliged me to take advantage of the opportunity you have given me to carry on the discussion. The course of this particular line of work has, as you know, take a sudden bound of activity within the last few years, and the reason is a very simple one. The immense success in the removal of ovarian tumors such as threatened to destroy life with absolute certainty which followed the efforts of Mr. Baker Brown and Dr. Keith, led some of us—myself especially—to venture into regions where life was not necessarily, or at least not apparently threatened, but where suffering was persistent and incurable, and where the sufferers had been proved by protracted trial to be outside the powers of ordinary remedial measures. In a recent paper by Sir Spencer Wells, published in the Medical Times and Gazette, the argument is completely dislocated, and put in an altogether *ὑστερον προτερον* fashion, and therefore I must here give a little attention to the views of that writer. He tells us that ovariotomy had at one time a mortality of seventy or eighty per cent, but I know not whence he gets his information. Doubtless it would be possible to find occasional examples of surgeons with limited experience having such a heavy death-rate, but such an isolated case would not yield a fair statement of the facts. I read a few months ago in an American medical journal that in Italy there had been one hundred cases operated upon, with sixty-three deaths; and the newspaper recorded the fact that "thirty-four surgeons were engaged in the sanguinary work." But when the work of men who can be called ovariotomists is examined, no such results are seen. Charles Clay was the first man who did an ovariotomy in England, and his maximum of mortality in his first series of cases was forty per cent, but it speedily fell to twenty-five per cent, and this is very much what has been recorded by Sir Spencer Wells of his own practice.

In the paper of which I am speaking, Sir Spencer goes on to say that "afterward, when the strictest hygienic precautions were supplemented by antiseptics and improvements in operative details were generally adopted, success became so great that ovariotomy not only took its stand as by far the most successful of any capital operation in surgery, but the risk attending it in a favorable case could truly be calculated as little, if at all, greater than that attending any case of natural childbirth, and, as a necessary consequence, early operations could be advised with less hesitation." The statements in this sentence are wrong from beginning to end. In the first place, the mortality of ovariotomy in the hands of Keith and myself still remains at or about three per cent, and we have shown the least mortality yet available. The mortality of natural labor, on the other hand, is certainly not .25 per cent. The statement that diminished mortality has led to early operations should be exactly reversed, for it is the early removal of tumors and discontinuance of tapping which have largely contributed to our present splendid results. Sir Spencer Wells's teaching inculcated the practice of tapping and its repetition until the patient was within measurable distance of the grave, but his successors have reversed all this with infinite advantage to their patients, and we now look upon tapping as a sort of surgical crime. This material alteration in practice led us step by step in the direction I have previously indicated, and we began to discuss the greater advantage to which I have just alluded. Every specialist is familiar with a large class of miserable women who wander about from hospital to hospital, or from consulting-room to consulting-room, seeking relief from their ailments unavailingly.

Let me take the first class to which Sir Spencer Wells alludes in his recent paper—cases of uterine myoma. There can be no doubt that there are hundreds of uterine tumors that give no trouble at all, but these are not the cases that come to us. If a woman has no pelvic trouble she does not present herself to the gynecologist, and if she has a uterine tumor which gives rise to no symptoms, that tumor of course remains undiscovered; but when she suffers from distress occasioned by pressure on viscera, from severe hemorrhage or increasing size, she comes to us and asks for advice. Suppose we find her to be suffering from a uterine myoma, what are we to do? The answer to this question is like the answer to every other of a similar kind: each patient must be advised according to the circumstances of her her case. If the tumor is small and the woman comparatively near her climacteric, and the hemorrhage such as can be moderated by a rest in bed and the use of ergot, then she should be advised to let the tumor alone. But if the woman be not near her climacteric, and the hemorrhage does not yield to treatment—especially if after a fair trial of treatment the tumor is found to be actively going on—then surgical treatment is demanded.

Of course, every practitioner of medicine and surgery does and always must carry on his work in his own way, and there can be no doubt that within certain limits the measure of his success stamps the rightness or wrongness of his methods. James Syme used to teach us that there were three methods to conduct our professional business, but that there was only one way to real success. He said there were three interests involved. First in order, that of the patient; second, that of the professional colleague; and, third, that of the practitioner himself. Syme insisted that the several interests should be rigidly kept in the order in which he placed them, or things would be sure to go wrong. I have never heard sounder advice, and have never lost sight of it, and, so far as within me lay, I have striven to follow it. In the proposals of a new proceeding two dangers clearly occur: the first, that of the enthusiastic upholder of the novelty, who may be disposed to run too fast in the new line; the second is that of the obstructive, who, merely a believer in the times that are past, can see no possibility of their improvement. The remedy for the first danger is a wholesome skepticism leading into just and careful criticism; the remedy for the second is more difficult, for it involves a patient endurance of much misrepresentation and a protracted combat upon the points of criticism which have no weight in themselves, and have an importance gained only by persistent reiteration. In the line of practice of which I am about to speak, the point most persistently urged against our new line of practice is that unnecessary operations are performed. Now this is an argument which it is extremely difficult to argue upon, because those who speak on the two sides of the question start from altogether different standpoints. Those of a past generation, like Sir Spencer Wells, apparently regard it as justifiable to perform operations in this department of abdominal surgery only when life is pronouncedly in danger; whereas, on the contrary, we of the younger school believe we are justified in extending our practice for the relief of suffering, and we regard this as a higher function than that of the mere saving of life. To end the discussion of this point I would point out that our critics endeavor to apply an arbitrary rule for the repression of abdominal surgery which has never yet been applied in any other department of the art. Let me ask, if we find a man suffering slightly with the early symptoms of small calculus, do we not at once proceed to relieve him by removing it from his bladder? In fact, in the domain of what is called general surgery, has it not become an established practice to perform operations which are accompanied by very considerable risk of life merely for the rectification of deformities, such as bow-leg and knock-knee, which have not the remotest risk of life attached to them and which involve no kind of suffering? The ultimate court of appeal, therefore, comes to be the patient's own decision, and I do not find that patients prefer to go on suffering pain and the disabling effects of profuse loss of blood rather than submit to a surgical operation, the details and effects and ascertained risks of which are completely and candidly placed before them.

In the treatment of uterine myoma two alternatives occur, and these are both the subjects of very hot discussion on my own side of the Atlantic, they are removal of the uterine appendages and removal of the uterine tumor itself by the so-called supra-vaginal hysterectomy.

No one in Europe, at least only one authority so far as I know of any importance, doubts that removal of the uterine appendages arrests menstruation completely in the great majority of instances, arrests the growth of uterine myoma generally, causes it to shrivel up, and in many instances actually to disappear. Mr. Knowsley Thornton, Dr. Savage, Professor Hegar, myself, and others have reported numerous cases in detail. I have published a long series in The American Journal of the

Medical Sciences for January, 1882, but Sir Spencer Wells dismisses us all in the brief sentence, "Vague, unsupported assertions have little influence upon the opinion of a thoughtful or a skeptical profession." Sir Spencer Wells must pass his retirement in some other way than in perusing the modern literature of his specialty, and therefore his criticism need hardly engage our attention seriously.

The great majority of cases of uterine myoma which come to us for surgical treatment can be quite satisfactorily dealt with by removal of the appendages, and it is an operation having a small and steadily diminishing mortality. The arguments used against it are, first, that of its mortality, but this mortality is the inevitable death-rate of early work, and it is, therefore, not a permanent objection. It was an objection urged twenty-five years ago against ovariotomy, but against that operation it no longer holds good. The second objection is that myoma itself is not a fatul disease, but this is not an argument in harmony with my own experience. Even if it were a just one, however, it is admirably met by a plea entered at Ryde, in the discussion of my paper on the subject, to the effect that it is to the rights and relief of the majority that we must have regard, and that the function of our profession does not end with the saving of life, but it is chiefly that of relieving suffering.

Two other objections have been urged generally against the removal of uterine appendages, that it sterilizes the patients, and destroys their sexual appetites. Of course, a woman is completely sterilized by a uterine myoma ninety-nine times out of one hundred, so that the process of complete destruction of fertility is a matter of little moment. The other objection has been shown to be perfectly groundless, and even if it were not so, it could hardly be urged on the ground of morality that a woman should go on suffering because she ought not to suffer any diminution of that animal propensity which it is the chief object of the higher life of all religious culture to subject, and the subjection of which forms for all creatures the greatest difficulty of existence.

There are cases of myoma demanding surgical treatment on which removal of the uterine appendages seems to exercise no satisfactory influence. Mr. Knowsley Thornton has made a very valuable suggestion, one which certainly deserves very careful consideration, that all cases of myoma requiring interference should first be subjected to removal of the uterine appendages and then to subsequent operation if it should be found necessary. The only objection to this that I can offer at present is an incomplete one. I have pretty well satisfied myself that there is one form of myoma on which removal of the uterine appendages exercises no control, a variety which I have named the soft edematous myoma. But it is not easy to recognize this form of myoma until it has been removed. Again there are a few cases, very few I have found them to be, in which the appendages can not be removed, and we must proceed to hysterectomy. Finally, the removal of uterine tumors has had such brilliant results in Bantock's hands, that I am in hope that a new era for hysterectomy has been opened out.

Another class of cases wandering about seeking relief, is that upon which I have operated in large numbers, and have found chronic and incurable disease of the appendages in the form of chronic inflammation of the ovary, chronic inflammation and occlusion of the tubes, these latter being occluded and distended by serum, pus, or blood. When I first published my work on this subject, there was, of course, a large amount of incredulity expressed about it, and this incredulity was not much lessened by the exhibition of a large number of specimens at various societies, and their permanent exhibition in the museums of the colleges of surgeons. Many, particularly among my metropolitan brethren, loudly asserted that there were no such diseases, and Sir Spencer Wells stated, at the International Medical Congress in London, that if such diseases did occur, they must all go to Birmingham. But Dr. Kingston Fowler has shown not only that they exist in London, but that they are far more fatal than I had any idea of, and that they have been and are overlooked and misunderstood in the metropolis just as they were overlooked and misunderstood in my own practice previous to 1878. Concerning this incredulity, please distinctly understand that I do not blame any one for it; it is a necessary part of all human progress. I do not even blame my metropolitan brethren, as they seem to think I do, for not discovering these cases and properly treating them. That is the fault of the mechanical school of gynecology established by Simpson, and which exercises a far too great influence over this department of our art. During the last twenty years displacements have had a great run, just as before that time every thing was put down to ulceration, and no man considered himself properly armed for the treatment of disease unless he carried a speculum and a caustic stick about with him in his gig. The mechanical school revels in the sound and the pessary, both useful enough in their proper places, but when misused are capable of endless mischief, for many of the so-called misplacements are now known to be constituted by chronically inflamed and adherent tubes and ovaries, capable of relief only by their removal.

You will ask me at starting to tell you how these diseases may be recognized, and I have to answer that their diagnosis can not now and probably never may be a matter of certainty. They begin generally in some acute attack of pelvic inflammation, from which the patient dates all her troubles, and when you get such a distinct history you ought at once to be on your guard. This illness may have arisen, for instance, in a clearly defined and confessed attack of gonorrhea, or it may be an attack of pelvic perimetritis occurring after a miscarriage or a labor, or it may have arisen in one of the exanthematic fevers or a simple cold. In some of the cases, however, you get no clear starting-point in the history, and then the diagnosis is generally more difficult. The symptoms are usually precise enough, yet unfortunately none of them is peculiar to the condition of which we are speaking. Pain is, of course, a leading feature, as indeed it is rarely without pain as a chief incentive that patients consult us at all. This pain is complained of as being constantly present, greatly aggravated by walking and becoming intense for some hours or days before the period and lasting throughout its continuance. Menstruation is usually too frequent and too profuse. In the great majority of the cases the uterus is somewhat fixed, and a tender mass can be felt at one or other side of it, perhaps on both sides, and behind it. When the tubes and ovaries are down behind the uterus and adherent there, and this is by far the most common condition, the diagnosis to a beginner is extremely difficult. Nothing looks more certain and easy than the diagnosis of subinvolution and retroflexion, and without further consideration a pessary is introduced, with no further result than that of aggravating the patient's sufferings; in fact, I may say that at this point her troubles will begin to be serious, and she will wander about collecting various kinds of instruments from various practitioners until she ends either a helpless or hopeless invalid, or dies from an attack of acute peritonitis.

In some of my most marked and most successful cases there have been no physical signs at all, and I have felt myself reluctantly justified in interfering only by the manifest reality of the patient's sufferings.

Here let me just say a word about the much discussed question of subjective symptoms. Every body has heard of the celebrated story told of Liston, that a hysterical girl persuaded him to remove a healthy limb for supposed disease of the knee-joint; but is there any other story of the kind known? If there is I have not come across it. We certainly do meet with women who will tell incredible stories about their sufferings, but the stories are so inconsequent and contradictory that there is no difficulty in discounting them. Besides, they have no support from the presence of corresponding physical signs. A woman whose sufferings are real has a sequent narrative and will submit to treatment, while the woman who is a humbug flies off at a tangent the moment a suggestion is made that she should submit to an operation in which she risks her life. I have never yet known a woman submit to an abdominal section in whom I did not find abundant justification for its performance, even in cases in which I had been extremely doubtful about its real necessity before I undertook it. I have known many patients to whom I have made the proposal as a test of their reality, and who, much to my satisfaction, have speedily taken themselves off to some other practitioner.

As to the details of the operations in these cases I have no time here to speak; indeed, I could deal with them satisfactorily only in a series of lectures. Suffice it to say, that the operations are very difficult, for the structures are always extremely adherent and the operator has nothing to guide him save the erudition of his touch. Concerning the cases of occluded and distended tubes, some of my critics have suggested, without any experience, that something short of abdominal section might suffice for their successful treatment, such as tapping the tubes from the vagina; but a trial of this proceeding long ago satisfied me of its impracticability and its uselessness, and my growing experience constantly confirms me in the conclusion that we have no alternative.

I am often asked concerning the subsequent history of these cases, and I am able to say, from the published details, that the great majority of them are relieved at once and completely by the operation. In some of them there remains a tenderness of the stumps, lasting for some months. In four very bad cases fecal fistulæ had formed, and in two the sinuses have healed and the patients are perfectly well. In the third case the fistula opens still at occasional intervals, and in the fourth case, by far the worst I have ever had, the patient being literally at death's door when the operation was performed, the fistula still remains open, some twelve months after the operation, and even here her health has so greatly improved that I am hopeful of its permanent closure in time.

I have occupied your time already at too great length, and yet have left myself no time whatever to speak of a great variety of topics within the limits of the subject of my address of which I fain would have spoken—subjects entirely novel, and full of the deepest interest alike to the practical surgeon and to him who takes but an interest of a literary kind in the progress of our art. In fact, it is a matter of regret to me that I can not address such an audience as this in a series of lectures rather than in an address which must necessarily be brief. It is one of the great defects of a position such as I hold—a defect inherent in a special line of practice—that it practically shuts out its follower from any chance of being a teacher. Besides, I feel this strongly as acting to my own prejudice, and I am certain it is a misfortune that those who, like myself, are very largely engaged in work strictly limited to a department can never communicate as successfully the results of their experience as can those who are engaged in teaching. I regret, therefore, that I must pass over without mention the important field of new work which has been opened up within the last few years in the surgical treatment of the liver, spleen, kidney, and intestines. I can not even stop to speak of many other less striking, but no less important subjects, such as the treatment of pelvic abscesses by abdominal section and drainage, though all these are of less importance, in so far that they excite but little hostility; and what I have to say to you further I purpose to limit to a brief discussion of a proposal, made by Dr. Robert Battey, for the production artificially of the menopause for the purpose of indirectly benefiting patients suffering from conditions more or less neurotic, the symptoms of which are apparently influenced by the recurrence of menstruation.

It must be perfectly clear to the most casual observer that this is a field of an extremely ill-defined character, one which at first sight offers but very intangible prospects of success, and in which the indications even of success must be very vague and indefinite. There can be no doubt that a large number of women suffer in such a way as to make it perfectly clear that if they were relieved from recurrent menstruation they would be improved; but there can be no doubt that the application of this idea—in itself a brilliant one—requires the utmost care. I have no sympathy with stupid obstructionists who, because they scent danger in the air, would absolutely prohibit its application; but

I have sufficient regard for the expression of every kind of professional opinion to recognize the necessity for the full exercise of caution.

When the proposal was first made I recognized this so fully that I selected for whatever experiments I should make in this direction, a disease concerning the reality of which there could be no doubt whatever—I mean epilepsy. It is a perfectly easy thing to recognize by two facts alone any case of genuine epilepsy from mere hysterical imitation. It was, I think, Dr. John Hughes Bennett who clearly established the facts that none but the true epileptics ever seriously hurt themselves during the attacks, and that after the fits are over the epileptic is always somnolent. It is certainly the case that in a large number of cases of epilepsy in women the incidence of the disease is concurrent with menstruation. It is also true that every epileptic woman whose case I have investigated is worse during the menstrual week than at any other time. In some cases the epilepsy is absolutely limited to those days of the month during which the menstrual flow is in existence. It was, therefore, a perfectly easy thing to select a number of cases in which the experiment of Battey's operation seemed capable of justification.* For the purpose of trying the experiment I selected six cases, and to these I have absolutely limited its application, though from the number of patients who have been sent to me for the specific purpose of having the operation performed, I suppose I might have been able by this time to have placed several scores of attempts on record. The reason of my careful restriction has been that I do not care to prejudice the results of my other work by complicating it with what seemed to me a doubtful kind of proceeding; but all my care has been to some extent fruitless, for I have been persistently charged by a certain class of writers with having performed a large number of useless and unnecessary operations in removing normal ovaries in women suffering from nervous disorders. Indeed, so late as July 5th last, Sir Spencer Wells wrote the following sentences, which, though they may have been intended for some one else, I can not help but suspect were leveled at me. They run as follows: "Just now something more than a word of caution against rash, dangerous, and unnecessary operations is called for. We are startled by the reports of the removal of normal ovaries of young women suffering from nervous disorders, which may be exaggerated or imaginary; and it is to be feared that our professional honor is at stake, and that abdominal surgery in its latest developments is open to the denunciation hurled against the early ovariotomists; and that, with more reason than in 1850, Lawrence's question must be repeated, whether such operations can be encouraged and continued without danger to the character of the profession; and West's assertion that the fundamental principle of medical morality is outraged can not now be satisfactorily refuted."

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* Dr. Thallon, of New York, has lately published an article in Seguin's Archives, which is an admirable illustration of the Teutonic process of elaborating a camel from the inner consciousness of the writer. Dr. Thallon seems never to have read what either Dr. Battey or I have written on this subject, and he has created a new term, against which I desire to enter a vigorous protest. He speaks of the "Battey-Tait" operation. There is no such thing. Dr. Battey's proposal is as different in its purpose, in its details, and in its application from my own as lithotomy and amputation. I need not enter into the further details of Dr. Thallon's criticism and conclusions, as they are reached solely by the utter absence of experience of the matters on which he has chosen to write.

Though I am fairly familiar with the literature of abdominal surgery during the last ten years, I am absolutely ignorant of any thing which can possibly justify such ridiculous exaggeration. I have publicly challenged Sir Spencer Wells to indicate the proceedings to which he alludes, and to produce the evidence upon which he bases his charges; but up to the moment of my leaving England he had not taken up the gauntlet. It is a somewhat remarkable fact that in another journal, in the same month, the same writer actually pleaded in favor of the removal of tubercular lungs; that such an operation would be justifiable if it saved one patient in twenty of those operated upon, and it seems to me absolutely impossible to reconcile such a recommendation with the denunciation I have just read.

So far as my own work in Battey's operation is concerned, in not a single one of the six patients operated upon were the uterine appendages normal. In two of them, typical examples of cirrhosis, the pathological anatomy was carefully investigated by independent observers, one of whom was the well-known and accomplished pathologist, Mr. Alban Doran, by whom the appearances were fully described and figured in the British Medical Journal for November 8, 1879. The results of these operations, in the first place, were that all the patients made easy and uninterrupted recoveries; the operations were performed after the most careful consultation, and with the full cognizance on the part of the patients and their friends of the results which were certain, and the entirely speculative nature of those it was hoped would be obtained. As I have already published the cases in detail, with the exception of the last, which was performed only a few weeks ago, I need not here repeat them save in general terms, and that is to the effect that in two cases the results are such as to justify completely the proceedings. In both of these the disease before the operation was so intense that it was threatening life, but now it is almost entirely subdued, and the health of the patients has been enormously improved. In one case the disease was entirely arrested for a year and a half, and, though it is now returning, the patient has been transformed from a wretchedly feeble, anemic, and broken-down girl into a healthy and robust woman, although affected by epilepsy almost as badly as before. In two others the disease has been greatly modified, and the health of the patients has been immensely benefited.

From this brief record, it is quite a matter open for discussion as to whether the continuance of the proceeding can be recommended, and I am bound to say that I have not myself a very strong opinion in the affirmative; but I think if I had a daughter with feeble health, the result of pronounced menstrual epilepsy, I think I would advise her to have the operation performed. From what I have seen of it myself, I think there can hardly be any risk about it, and if performed with the precautions I have indicated, I do not think it can be brought under the sweeping category of Sir Spencer Wells, as being either rash, dangerous, or unnecessary.

There is another argument, and I think one that may be said to have some moral force, in that, as it will assist in the prevention of the distinctly pronounced hereditary tendency of the disease, we should at least hesitate before we entirely condemn it. Certainly a great deal more can be said for it than for the proposal of pneumonotomy for phthisis, on the assumption that the removal of a lung would only save one patient out of twenty. Removal of the uterine appendages for epilepsy would probably not kill more than one per cent; and I am certain it would materially relieve fifty per cent; it would improve the health of the great majority of patients, and I do not think it would make any of them worse than they were before the operation. I am hopeful, therefore, that the verdict of professional opinion will not be adverse to a fair and reasonable trial of Dr. Battey's proposal, and I trust that the freedom from the prejudice and shackles of tradition which we find on this side of the Atlantic will secure for it a fair field.

Treatment of Cholera.—Surgeon McFarlan, of the British Army, writes in the Dublin Journal of Medical Science as follows: There are four principal plans of treatment I have seen adopted and practiced myself:

1. The calomel and opium treatment.
2. The salt treatment.
3. The belladonna treatment.
4. The permanganate of potassium treatment.

There are many men of experience who still believe in calomel and opium, two or three grains of calomel with half a grain or a grain of opium every two or three hours, with stimulants, but no water, unless mixed with spirits, sinapisms, and hand-rubbing. I can not say any thing in favor of this plan. I have seen many cases recover under it. Some cases will recover in spite of any treatment, as some will die; but I think the treatment adds much to the agony of the disease, and if it does not hasten the patient to the grave, does not smooth the passage. I think it may be laid down as a rule that opium should never be given once collapse sets in.

The second is the salt treatment, and there are two ways I was recommended to use it: One is, common salt, two drams; bicarbonate of sodium, thirty-six grains; chlorate of potassium, ten grains; water, eight ounces; to be taken every half hour or hour, according to the symptoms. The other way is, half an ounce of common salt in a pint of water every half hour or hour. Why bicarbonate of soda is used when the secretions are alkaline I do not know. I should feel inclined to substitute dilute hydrochloric acid; but certainly I have seen the mixture act very successfully, and more so than the plain salt and water. One would imagine either of these a nauseous draught; but any one who has seen the avidity with which a cholera patient will suck down the last drop thinks otherwise. Of the salt I have heard the doubtful recommendation, "that more cases of cholera have recovered with the salt treatment, and more cases have died, than under any other," and I can not speak more clearly of it.

The third plan of treatment is that by belladonna. The form recommended is one fourth grain of extract of belladonna with two grains of sulphate of quinine, in a pill freshly made up, every half hour or hour, till reaction is established. I treated three or four cholera cases with belladonna; one patient by it and no other medicine. For three days he suffered terribly, and was in a state either of collapse or of fever. I certainly felt that in belladonna I had the means of bringing him out of collapse, and controlling it; but when the drug was suspended be became collapsed again. Each time reaction set in it was accompanied by a mulberry-colored rash and high febrile symptoms, and the difficulty was to prevent the collapse coming on again. He made a good recovery ultimately. The belladonna treatment requires constant watching, is very trying to the physician, but I think is a method of treatment worth knowing of.

The fourth plan of treatment is a permanganate of potassium. This is certainly the most successful I have seen. The late Surgeon-Major White employed it always, and it was from him I learned it. I think he first saw it used in Bulgaria. It has many things to recommend it. In the first place, you can carry a small bottle in your waistcoat pocket, sufficient to treat hundreds of cases, and no other medicine is necessary; in the next, it is a pleasant remedy. From beginning to end there is nothing in the treatment to cause apprehension to the patients or add to their sufferings. The plan Dr. White adopted was to give a teaspoonful of a palatable solution of the pure salt every ten minutes regularly, until reaction was established, and then give beef-tea, etc. One grain to four ounces of pure or distilled water is the strength of the solution. The salt must be pure, and the solution must be renewed if it become discolored, as it sometimes does. The first time I saw it used I had been treating a soldier with the salt solution from early morning till 9 A. M., and he was sinking fast. Dr. White then relieved me till I went to breakfast, and on my return I found my patient with reaction well established. I saw Dr. White treat several cases with the permanganate, and certainly I have never treated a case in any other way since, and I have had several sporadic cases. I treated one case for six hours before any material sign of improvement took place, and after sixty doses reaction became thoroughly established, and the patient made a good recovery. At the same time another man was attacked, and his symptoms were relieved in less than two hours. With the permanganate treatment the patient may drink water freely, or, what I think better still, meal and water, *warm*. The only thing is not to give the drink just on top of the permanganate, but wait three or four minutes, which the patient will willingly consent to do. One medical officer gave it in one-quarter-grain doses; and this caused a burning sensation to the patient's throat and added to his sufferings. The dose I mention is the proper dose; if more than a teaspoonful is given it is rejected, like every thing else. The first symptom relieved is the sickness, then the thirst, then the heat returns, purging and cramps cease, and after some hours the kidneys act. I think in the case of children it would be a valuable treatment, if any thing would; and I do not see why a young child might not get the same dose as I have named for an adult.

Of accessory treatment—and first of *drinks:* To withold water from a cholera patient is, I think, the height of cruelty. Except it be to arrest the sickness of stomach (which it is doubtful if it does) I do not see why ice is so much recommended. The mouth, tongue, and breath are cold, as is the surface of the body, and the temperature, as shown by the thermometer, is much below normal. True, patients will munch any amount of ice, or drink any amount of water, but they will drink salt and water with as much avidity, and I have found they will enjoy warm meal and water just as much. It is fluid they want, to supply the loss of water in the blood, and they will take it in any form. I put a good handful or two of oatmeal in a can of hot water, and let them drink as much of as they like warm.

Sinapisms are useful sometimes over the heart and epigastrium. Hot bottles to the feet, sides, etc., are of great use.

Hand-rubbing. This is often done very roughly. As the patient shouts out to rub hard, the cuticle is soon rubbed off the legs, which are most effected with cramps, and this adds much to the suffering afterward from contact of the bed-clothes. The proper way is for the assistant to lubricate the hands well with warm oil, and to knead, press, and squeeze the affected parts rather than rub them.

Injections. I heard of one medical officer who had good success from injecting, per rectum, large quantities of decoction of logwood warm. I have never tried injections, but I would be inclined to try large quantities of a dilute solution of permanganate of potash, warm as the patient could comfortably bear, or large quantities of salt and water, with chlorate of potash, well diluted and warm.

Bleeding. I saw one remarkable recovery after bleeding. One night during the height of the epidemic in 1862, at Allahabad, two patients were brought to the hospital, as bad almost as they could be. It was before I saw the permanganate treatment. I tried the salt treatment, gave them champagne, put on sinapisms, etc. They rejected every thing given by the mouth. I had heard of three cases in gaol of natives who had been treated by venesection and recovered. I opened a vein in the arm of the worst case of the two men, but could only squeeze out a few drops of black blood, like tar. I then opened a vein in the other arm with the same result; the man would not bleed. I left him and was attending to the other case, when some one came to me to say the man was bleeding profusely. I bound up his arms pretty quickly; reaction returned; he turned over on his side and went to sleep, and never had an unfavorable symptom afterward. As he had other treatment, I will not say positively it was the bleeding that saved him, but, humanly speaking, I believe it was. I tried it in two or three cases afterward, but not sufficiently. I did not give it a fair trial. It was by accident the successful case bled so profusely.

Stimulants. I believe in the non-stimulant plan of treatment; at the same time, if a patient had a craving for alcoholic stimulants, I do not know that I would withold them; but I have never observed this craving, rather the reverse. If I did give stimulants, it would be what the patient was accustomed to.

Without venturing to recommend it confidently, I incline to the permanganate of potassium treatment; and yet I must make an important admission—namely, that I have never seen it tried at the commencement of an epidemic. I have seen it stated that at the commencement of an epidemic nine tenths die, in the middle one half, and at the close nine tenths recover. If this be true, the permanganate can hardly be more unsuccessful than any other treatment at the commencement of an epidemic. I have seen the permanganate used when an epidemic was pretty near its height, and in several sporadic cases since, and I prefer it to any treatment I have yet seen. Neither would I like to let a patient die without trying venesection. A little blood from the arm might relieve embarrassment caused by the right side of the heart being unduly loaded and turn the tide in his favor, and if the patient does not bleed there is no harm done.

NEW METHOD OF TREATING ASIATIC CHOLERA.—S. S. Todd, M. D., of Kansas City, writes, in the Journal of the American Medical Association: All cholera cases in their incipiency, and all *mild* cases throughout the attack, should be treated with opiates and astringents, and *hot* water, acidulated with sulphuric acid, should be allowed and urged upon the patient, to the utter exclusion of ice, ice-water, and all ice-cold drinks. Whisky, wine, or brandy may be added if the patient be much prostrated or be suffering from fear, but in moderate quantities only. The abdomen should be covered with a large mustard poultice, and the feet should be kept warm.

In a more advanced stage of the disease and in all severe cases, from the outset, no time need be wasted with opiates or astringents, as they will do little good. Collapse is now imminent, and the hot drink should now be given more assiduously than before, and repeated again and again if the stomach reject it. The body should be kept as warm as possible with bottles of hot water or other appliance, and no rubbing allowed, if the patient can be otherwise kept quiet, as it limits the advantage to be gained from application of heat, an important consideration. Ice and ice-cold drinks, contra-indicated in all stages, are most hurtful in this, and however grateful to the patient, and however eagerly craved, should be rigorously denied, as tending to cause or aggravate an already existing algid condition.

It is now that the hypodermic syringe is to prove useful, if at all. Large quantities of a fluid should be injected, at short intervals, composed of distilled water, to which has been added a small quantity each of chloride of sodium and chloride of potassium, and such an amount of *alcohol* as may be deemed requisite, the solution to register 98° F. when ready for use. These injections should be repeated at intervals of one or two hours, the interval, the quantity of alcohol, as well as the whole amount of fluid used, to be regulated by the amount of serum waste, by the degree of prostration, and by the size, age, and sex of the patient. A syringe of four-ounce capacity may be had of Tieman & Co., New York.

Albuminuria.—Sir Andrew Clark, in a paper read in the section of medicine, at the British Medical Association, said: I think that, in the present state of knowledge, the discussion of structural is of less interest and of less importance than the discussion of functional albuminuria, to which I shall confine the few observations I have to offer.

To the use of the term "functional," many general and some just objections will be raised. It will be urged that every lesion of function must have its correlative lesion of structure; and that, to use any term which appears to deny this fact, or fails to give it at least implicit recognition, is at variance with the principles of science and constitutes a backward instead of a forward movement in knowledge. To the logical coherency and force of this argument I make no objection; but I contend, as often before I have contended, that mere local integrity is not in such matters the final test or measure of truth, which, in the present state of knowledge, can sometimes be reached only along lines which seem, as we understand them, at present to be illogical. And in no way could this paradox be better illustrated or more strongly enforced than by a critical study of what is called functional albuminuria. It is, I venture to say, certain that, in the kidney giving rise to albumen in the urine, there occur states—mechanical, physical, chemical, and, in a provisional sense, vital—which are neither tangible nor visible, which not only can not be estimated, but are even, by the most delicate instruments of research, incapable of recognition; states which may often come and go, disordering function and disturbing health, and yet leave no abiding marks of their presence and actions. Such states are different in manifold ways from organic states, and must be so named as to insure recognition of their fundamental differences. For this is not all that has to be said concerning these functional states. We are so much concerned with anatomical changes; we have given so much time to their evolutions, differentiations, and relations; we are so much dominated by the idea that, in dealing with them, we are dealing with disease in itself, that we have overlooked the fundamental truth, that these anatomical changes are but secondary, and sometimes the least important, expressions or manifestations of states which underlie them. It is to these dynamic states that our thoughts and inquiries should be turned; they precede, underlie, and originate structural changes; they determine their character, course, and issues; in them is the secret of disease; and, if our control of it is ever to become greater and better, it is upon them that our experiments must be made.

I say, therefore, that those functional affections of the kidneys attended by the presence of albumen in the urine are of the utmost importance to the better understanding of organic disease, and deserve a more prolonged and critical study than they have yet received.

Of the forms of functional albuminuria with which I am practically acquainted, I shall mention four as worthy of further consideration. They are the nervous, the oxaluric, the hepatic, and the gouty. I leave on one side the functional albuminuria of cold and the various forms of peptonuria connected with indigestion.

The first two forms occur chiefly among adolescents; the latter two are found for the most part among elderly people.

I am as sure as I can be about any thing incapable of demonstration, that all strain of nervous system, especially under emotional excitement, is capable of producing functional albuminuria. Among twenty men entering a competitive examination no one is albuminuric; at the close of the examination, lasting a week, three are found to have albumen in the urine. A gouty man with moderately healthy urine attends a political meeting and delivers an exciting speech. Soon afterward a little albumen is found in the urine; but in a day or two it disappears. In a fortnight he delivers another speech in circumstances of great excitement and the albumen reappears in the urine.

The most numerous illustrations which I have met of functional albuminuria have occurred in young men aged from eighteen to thirty, whose urine was of a high density and loaded with oxalate of lime. To put the matter in another way, I have not very often followed carefully a case of "oxaluria," with high density and an excess of urea, without finding sooner or later traces of albumen in the urine. This is by far the most interesting and instructive of cases. Illustrations of the hepatic group occur for the most part in middle-aged men. There is congestive enlargement of the liver with catarrh; the portal system becomes loaded; the skin is dry and icteric; and then, without any appreciable change in the urine beyond the presence of a little bile, albumen appears in it. With the subsidence of the hepatic trouble the albumen disappears from the urine.

Temporary albuminuria in gouty persons whose kidneys are as yet structurally unaffected is common enough in certain conditions. When the balance between ingoing and outgoing is disturbed, when the blood becomes loaded with excrementitious stuffs, when there is increasing vascular tension, with restlessness, feverishness, dry skin and headache, then, as a common rule, traces of albumen appear in the urine.

TREATMENT OF ALBUMINURIA.—Dr. W. R. Thomas, of Sheffield, gave to the British Medical Association his views on this subject in the following brief way:

Treatment of Acute Cases. If we keep in mind that the disease has been produced by this excessive work, we shall naturally try to relieve the kidneys as much as possible. We should take care that the skin is kept warm and clean, that its action should be increased, if necessary, by warm or vapor-baths. The bowels should be kept open daily. Only a sufficient quantity of food should be given, or the kidneys will have too much work to do.

Treatment of Chronic Cases. I believe that, if we can ascertain what the cause of the disease is, we do much toward the cure. We should, I think, see that excess of food or drink is not taken, that the mind is not worried or overworked, that the skin or other organs are acting properly, that the kidneys are not compelled to do excessive work; that, if there be hereditary disposition to gout, excessive care be taken with regard to diet; that any organs which may be inefficient in their functions be assisted by remedies if possible; that above all the skin be kept warm and clean by proper clothing and sponging; that the general health be improved by exercise, proper diet, regular hours, and remedies which may be called for by the state of the patient, such as iron, the several tonics, antacids, etc.

Dr. Myrtle (Harrowgate) said, in the treatment, he thought, in chronic cases, the best course to adopt was to place the patient in the most favorable position as regards climatic surroundings, to choose an even, genial, and, if possible, a dry locality, where the skin and lungs might be allowed free play; and this of itself would prove the best remedy, the most certain means of retarding the progress of degeneration if it could not effect a cure.

SALICYL TREATMENT OF ACUTE RHEUMATISM.—Dr. Maclagan, in his address on therapeutics, delivered before the British Medical Association, said among other things: You all know how the treatment of rheumatic fever has been revolutionized by the introduction of the salicyl compounds. In the history of therapeutics there is probably no instance in which a new method of treatment has had its advantages so rapidly and universally recognized. In your experience you know, at least those of you who have given the remedy in adequate doses know, that under this treatment the duration of fever and pain in an uncomplicated case of acute rheumatism is a matter of hours rather than days, and you enter on the treatment of such a case with the certainty of being able to rapidly subdue the symptoms and cure the disease. The results of the earlier observers were so remarkable that they naturally created a feeling of skepticism as to their accuracy; and no wonder, for it was rather startling to be told that we could cut short in twenty-four hours a disease whose natural duration under the best possible treatment had been measured by weeks. But further observation tended only to confirm this; and within a year of its introduction this method of treating acute rheumatism was all but universally adopted, and the statements of the original observers confirmed in all quarters of the world. The salicyl treatment of acute rheumatism does not consist simply in giving salicin and salicylic acid; it consists in giving one of these in large and frequent doses; but in the statistics hitherto published are included many cases in which the dose given was so inadequate that the disease was practically allowed to run its natural course; and yet these cases are instanced as cases treated by salicin or salicylic acid.

When the method of giving the salicyl compounds in large and frequent doses—of giving as much as you can instead of as little as you can—has been fully accepted and acted upon, and when the history of the salicyl treatment comes to be written by our sons, statistics may prove a ready and useful means of demonstration. Meantime that history is being made.

The treatment of fever by cold is an old practice which has been revived of late years. Its resuscitation is mainly due to Brand, a German army surgeon, who has published some very remarkable statistics to show that by this treatment the duration of and mortality from typhoid fever can be greatly lessened; and that, if begun sufficiently early, by the third day the course of the disease may be arrested.

Such a very remarkable statement can not be accepted without a complete examination of the facts on which it is founded, and at the very commencement we are met by an objection which shakes all our confidence in the accuracy of Brand's statements and in his reliability as an observer; for when he tells us that the best results are got in cases in which the treatment is commenced by the third day, the questions naturally arise in our minds: How does Brand come to see typhoid fever at so early a period of the illness? and, having seen it, how does he diagnose it? I am quite sure that in this country not one case in ten thousand is ever seen at so early a period. I am equally sure that no physician would venture to make the diagnosis of typhoid fever at that early stage of a febrile attack. So slight are the early symptoms, and so invidious the onset of the malady, that the patient rarely applies for advice before the sixth or seventh day, and the features characteristic of the disease so tardily develop that a diagnosis can rarely be made before the end of the first week. These are established facts in the history of typhoid fever; and when we find Brand coming forward with statistics in which these facts are ignored, we are bound to receive his statements with all reserve.

Let me tell you of two cases which came under my notice last week. A gentleman had been ailing for a couple of days; he had headache, malaise, some aching in the limbs, and loss of appetite; his pulse was 100, his temperature 102.2°; there was no local inflammatory mischief, no apparent cause for the rise of temperature. I sent him to bed and gave him a light diet and half an ounce of liquor ammonia acetatis every two hours. On the following day (the fourth of his illness) the temperature was 99.6°; on the next day it was normal, and he was well. Brand would have told him that he had typhoid fever, would have put him in a cold bath, and included the case in his statistics.

A few days ago I saw a boy, aged fifteen, on the third day of an illness which commenced with headache and a feeling of cold. His pulse was 104, and his temperature 102.3°. There were no local symptoms. He was put to bed and given a teaspoonful of Mindererus' spirit every two hours. The next day his temperature was 100°, and on the following day normal. Brand would have treated the case heroically by the cold bath, would have given the credit to the cold bath, and included the case in his statistics.

These are cases of which we all see dozens every year. I instance these two only because they occurred last week. In civil life, and especially among the poorer classes, the majority of such cases recover without ever being seen by a medical man. In military practice they are all seen and treated. Brand, as a military surgeon, has seen a great many of them, and unfortunately has included them in his statistics as cases of typhoid. What reliance can be placed on the statements of a man who makes such a mistake as that? If any English military surgeon had come forward with such statements and such statistics they would not have received a hundredth part of the notice which has been accorded to Brand's, and would long ago have been set aside by the profession in this country as worthless; they are none the less worthless because they are of German origin.

On the practical results of the cold-bath treatment of typhoid fever I have at present nothing to say. I wish only to indicate the misleading nature of Brand's statistics, and point them out to you as another and prominent instance of how little reliance can be placed on statistics as a means of therapeutic research. (The British Medical Journal.)

ANTISEPTIC TREATMENT.—Professor Esmarch (Kiel) thus described the plan of treatment followed in his hospital practice. (British Medical Journal): The aim was the avoidance of suppuration, and the leaving of the wound undisturbed. This was best done by a permanent dressing, preventing the entrance of germs. The things required were: (1) Exact hematosis; (2) the avoidance of cavities in the interior of the wounds; (3) drainage, artificial ischemia, the application of numerous catgut ligatures upon large and small vessels, and the application of a bandage before the removal of the tourniquet, support of all the deep parts by pressure, turning in of the edges of the skin, and pressure. Drainage-tubes, as preventing healing, were not now used by him, but openings were left for the escape of exudation. Asepsis was minutely studied. The bandages were sterilized by dry heat and corrosive sublimate. The spray was used only before operating, so as to disinfect the air in the room. In one operation distilled water with salt, of the specific gravity of the blood, was used for irrigation, but at the end corrosive sublimate was employed. Other antiseptics, as iodoform, were occasionally used. For bandages, loose absorbent soft matter was needed. Peat was used in pillows (without macintosh) dipped in carbolic lotion. The parts were rendered immovable by glass splints until healing by the first intention was obtained. This occurred in from four, eight, ten, or fourteen days to five or six weeks after operation.

Dr. Mosetig-Moorhof (Vienna) advocated the iodoform treatment of wounds, and said that he used no other antiseptic. He used cold water during operations. There was no irritation, and asepsis was certain. Iodoform prevented transudation of the white blood-cells. He narrated a case of traumatic septic gangrene extending above the knee, where yet the knee-joint was found aseptic at the post-mortem examination. Iodoform also diminished pain.

Dr. Schede (Hamburg) said the principle of antiseptic treatment remained unaltered, although the methods had changed. After his training in Halle, when called to Berlin, he found Lister's method perfect in its results; but in Hamburg he never had perfect success with Listerism; he was now unable quite to exclude accidental wound-disease from his cases. The hospital was old, and in many respects undesirably arranged and situated. He tried iodoform with good results. He had also tried corrosive sublimate, and, after experience, had got from it brilliant results. Erysipelas at once disappeared; not one case had occurred under the sublimate dressing in his wards; no septicemia, no pyemia, no irritation. He used it in the proportion of one to five hundred, and had had no case of poisoning. Sometimes, however, there was tenesmus of the rectum. Children especially tolerated the sublimate well. In the dressings he tried to keep every thing dry.

Dr. Mikuligz (Cracow) did not agree with either Dr. Mosetig-Moorhof or Dr. Schede. In his hospital, which was much worse than Dr. Schede's, he had had no erysipelas with iodoform; but iodoform could not be used alone. Other soluble substances must be used where its insolubility prevented it from fulfilling the indications. He disinfected with a solution of carbolic acid, or of corrosive sublimate, and used no spray; in the vagina he plugged the canal with iodoform gauze; in the rectum he stitched one side and the upper end of the sphincter, and used no drain, even when the peritoneum was opened. Poisoning occurred only from excessive use.

Dr. Neudörfer (Vienna) said the aims of antiseptic surgery were the same, but the methods varied, and must vary, very greatly. Each surgeon was satisfied with his own plan, and really got good results; but statistics were not of much value. Surgeons must study rather in the direction of sepsis. Sepsis required water; therefore he used no water in his treatment of wounds. He used no sponges, but a dry towel crumpled together to wipe up the blood. He used for wounds peroxide of hydrogen, and had found singularly good results.

Mr. Schelkley (America) said that the tendency to sepsis, etc. was different in different cases. His practice was in the tropics. At first he used thorough Listerism; he never, however, got healing by the first intention, but always slight sloughing of the surface, and union by the second intention; yet there was no pus, nor any pain. He then changed the plan, ceased to use the spray, and irrigated during the operation with salicylic acid or corrosive sublimate, and used iodoform dressing or boracic lint. Salicylic acid and iodoform gave the best results, yet he did not get union by the first intention.

Dr. Koeberle (Strassburg) said that for some time he had used only linen to wipe wounds, and had since had no erysipelas among his operations. He claimed to have had better results than Schede; even his ovariotomies were all cured.

Prof. Plum (Copenhagen) said the Danish surgeons agreed entirely with Germany, but he could not support Esmarch's plan, on account of the cost. The chief antiseptics were soap and brush, and by simple means much might be done.

Dr. Trélat (Paris) said that he had three years ago laid down the following rules: The wound should be made of a form suitable for healing by first intention, and perfectly adapted. No foreign body, either mechanical or septic, should be left in the wound. Antiseptics did not exist in some countries; not on the top of Chimborazo; and half-educated Americans did remarkable operations on negroes. The principles of antiseptics were not altered; the practice was being perfected. He used iodoform gauze, chiefly as plugs, and superficially as required. He applied a large cushion, pressed with elastic bandages to the wound, changing the dressings on the fifteenth day.

LISTERISM.—Of all the advances which have been made in modern surgery, there is none to be compared in the immensity of its results, none which has been such a boon to humanity, as that antiseptic system of treatment with which the name of Sir Joseph Lister is associated. What does it owe to statistics? Nothing, absolutely nothing; and Sir Joseph Lister has wisely abstained from wasting time in the collection of statistical details which could be of no use, as they could not demonstrate more satisfactorily than has already been demonstrated the extent of the benefits derived from the antiseptic system. But his opponents have endeavored to show by statistics that as good results were got without the use of antiseptics, that Sir Joseph Lister's precautions were uncalled for, and his results no better than those got before his treatment was introduced. But every impartial observer knows that he is right and they are wrong; that, under the antiseptic treatment, as taught and carried out by Sir Joseph Lister, lives can be saved which, but for it, would be lost; and the attempt to show the reverse by statistics serves only to demonstrate that which I wish to impress upon you, that, of all our guides, statistics are the least reliable—of all means of therapeutic research, that on which least dependence can be placed. (The British Medical Journal.)

Notes and Queries.

On the International Collective Investigation of Disease.—Sir William Gull delivered the annual address on this subject at the International Medical Congress at Copenhagen, in August last. We make from it a few extracts and wish our space permitted us to give the entire address:

The purpose we have before us is no less than this, to enlarge and methodize intellectual co-operation, whereby not only the active, but the at present inactive, faculties of observation of the wide-spread members of our profession may be combined into one or more lines of energy. I am not unmindful how much this presupposes; how it assumes the combination of exact observation and record with refined criticism and analysis; how it demands the highest scientific perception with the humble collection of the meanest facts; how, in fine, it means the development of intellectual combination into many forms of organization which should be not one but many instruments of research. Such a forecast may, perhaps, lead us to exclaim, "Who is sufficient for these things?" Yet happily the answer is near; time, though short for the individual, is inexhaustible in the race; the intellect is in its infancy, its powers of growth unexhausted; and to these, in their evolution, there appears to be no limit. The work to be done is unchangeable; and there are eager and willing workers in all lands, who only need the encouragement and direction of the master minds of medical science to set them to work.

Happily the phenomena which demand our investigation, though complicated and transient, are, it need not be said, the result of unchangeable laws. The capriciousness of Nature, as we speak of it, is but the weakness of our own sense and understanding, and its so-called mystery and obscurity but the darkness in ourselves.

The physiologist and pathologist have to admit that not even in the caprices of man is there capriciousness; that mental caprices have their organic basis; that the whims, the fancies, and the prejudices of the human mind, not less than the changing activities of the functions of his body, or the revolution of the earth on which he lives, are but the result of unvarying laws, unchangeable as the fixity of the stars on which he gazes with wonder and admiration.

We may therefore have this encouragement, that, when any of our work is done, however small and trifling it may seem, it is done and settled for all time, or at least so long as the laws of organization remain what they are; that the clearing of a fact in respect of disease will remain an imperishable inheritance of knowledge to those who follow us, so long as there is disease in the world. We may support our labors, therefore, with a feeling of surety that the problem before us is a settled problem, however difficult its solution. Nature will not delude us, however much we may delude ourselves.

The student of medicine occupies a unique position in the pursuit of knowledge. For instance, if I turn the leaves of the programme, I find that the Section of Anatomy invites attention to cell-nucleus and cell-division, the lowest unit of organization; and the Section of Psychiatria to the psychic-epileptic equivalent, which, as no one will deny, stretches to the other pole of knowledge; hence, surely no man more needs to lay hold of the unchanging idea of law than the student of medicine, as he ranges from one extreme of observation to another.

The thoughts of the student of medicine must, therefore, range from the atoms that build up the textures to the hopes that make the man. And even perhaps further than this; for in most of us the unsatisfied mind can not answer itself with the measurables and ponderables of physical science, however much it may admit that all else is dependent upon them, but will strive to go behind appearances and feelings to the substratum of their existence, and can not find rest for its foot until it traces their relation to an unchanged first cause.

Du Bois-Raymond might well remark that the problem of organization would be comparatively easy, if it were unattended with feeling and thought; that it would then, as it were, present us only with an astronomical problem, in which the atoms of things would, after the manner of the heavenly bodies, move on in their several orbits in lines which science might hope to deal with. For it is within the scope of science, even as we now understand it, to track an atom of oxygen, nitrogen, hydrogen, or carbon through its synthesis in a plant to its combination in the elements of brain or muscle, and still on to its resolution and return into its original form, with corresponding evolution of force. But when this shall have been done, we have learnt nothing of pain, nothing of emotion, nothing, indeed, of the science of many of the common facts with which medicine has to deal every day. How different would be the problem to the physician if disease were unattended by pain or emotion, if the patient were indeed patient as unorganized materials are; if there were no hopes or fears on the part of the object to be dealt with, and no embarrassment on the part of the practitioner from desire to please as well as to heal! Quacks would then be banished to limbo. The course of nature could be watched until the equilibrium of health was attained, and the temptations to polypharmacy would be no more. But then, on the other hand, we should have nothing to do with life in its higher form, which is our ever-abiding problem, and we should miss the stimulus of affection which, like a constant trade-wind, carries us forward—at least the majority of us.

The family physician or practitioner has a sphere of observation specially favorable to the study of etiology and modes of extension of communicable diseases. He has also special advantages for pathological study, which are not so much afforded to the professor in a university or hospital. It is his privilege to see the earliest beginnings of disease, and to have the opportunity of tracing its evolution and decline; or, when so favorable a course does not happen, the steps of pathological progress are before him; whereas, at the end of life, when the whole organism crushes downward into a chaos of pathological forms by the advance of disease, it is often impossible on the post-mortem table to say where failure began, and how it has advanced. The family physician's observations should thus supply a corrective to a too exclusive mechanical pathology.

Among the subjects suggesting themselves to us in England in near relation to this matter was the formation of life-histories and family-histories in respect of disease; and these could only be obtained through the family physician. If such histories could be widely and accurately recorded, the natural associations of different forms of disease in individuals and families would be made evident, and might afford suggestions as to pathological relations not now suspected—relations between diseases which are separated in nosological treatises, but associated in Nature. This mode of inquiry, through family-history, would open a wide page for the record of the pathology of ailments, a page than which there is none more interesting to the practitioner of medicine, since seven tenths of his work, and perhaps more than this, lie in efforts to correct physiological deficiencies, and to maintain some near approach to the equilibrium of health, which a feeble organism unaided can not reach.

One can hardly forecast the amount of good influence on therapeutics if, instead of individual assertions respecting the value and success of this or that drug or method, we had the teaching of calm and impersonal results deduced from an international area of inquiry so large that the individual observer would be lost in the result.

There is but one caution, and that lies against our attempting too much at first. In our scientific ambition it would not be difficult to o'erleap ourselves. It is by a little well done that we shall do much; whereas, if our deductions be hasty, incomplete and unfounded, the authority which will naturally attach to these researches will be much more obstructive to the cause of science than the fallacious dogmas of separate individuals. If our hopes and prospects are encouraging, the steps we take can not be too wary, The purpose of our association could only lead to failure, and, perhaps, even a gigantic failure, if the movement were not waited upon by strict caution and exact criticism. If the work proceed at the present rate, a few years will witness one of the greatest and most useful movements in modern times. The founding of an International Collective Investigation of Disease will promote the national movements of the same kind in all countries, and will give a stimulus to international emulation under the happiest form.

Editor American Practitioner:

THE INDIANA STATE MEDICAL SOCIETY.—Among the very interesting papers read before the Indiana State Medical Society, and published in the September number of the American Practitioner, there is one, that by the President of the Society, about which I wish to say a few words. In the address referred to Dr. Munford gives much space to the discussion of a higher medical education, and, as is the prevailing fashion, harps upon the old old string of a more complete and higher primary and classical education. Now every one knows, that where a young man obtains a thorough training in our colleges and higher schools, it will enable him more easily and perfectly to master and comprehend the great scientific truths and facts, as taught in the better equipped medical schools of the country. But it is not practical or possible for one half of those who study medicine intelligently, and who do make of themselves able and successful practitioners, to obtain a thorough literary or classical education. And then, good sound sense, with a gift or great liking for the study and practice of medicine, is better than all the college learning in the world. Yes, a gift; how came Dr. Gross, or any other surgeon to become distinguished in surgery, if it was not from the fact that he had a liking for it, and an aptitude for the study and practice of the heroic art? Why, the biggest fool in the class of '49–'50, in the old University of Louisville, was a college-bred boy, and your excellent father would not let him graduate without a promise to study one more year before he commenced to practice medicine.

No, let us not fume and fret over what we can not help. The best plan is to let all study medicine who want to, if they but be sensible and apt to learn, whether they can read Latin or not. I heard that great old man, Drake, one day make a Latin quotation, and then remark to the class, "Some of you know whether that is correct or not, for I do not, as I am not a Latin scholar."

Professor Miller, you know, was a country-bred boy, and said he got his education in an old-field school, often sitting up in the boughs of the trees to study his lesson. And who were greater than these?

The more doctors there are the fewer quacks there will be. There are grades in every calling, in every profession, in every walk of life; degrees of success in every thing, in medicine, in law, in theology, in poetry, in painting, in all the mechanical arts, in every thing.

Our profession has been now for many years harping on the subject of a higher medical education, and in point of fact is it more advanced now than it was when you and I graduated, thirty-five or forty years ago? I believe the best plan would be for our medical colleges to adopt the old custom of two year's study and two courses of lectures, and then to reject all who are not qualified for the practice of medicine.

The Indiana Society certainly had a full benefit on the subject of malpractice. I would say to our Indiana brethren, they might apply themselves with advantage to educating the people at large. We certainly have nothing of the sort down South. Our people are either too proud or too honorable to sue a faithful doctor when he has done his best to relieve them. Come South, brethren, and learn a lesson in chivalry.

One word on the case of post-partum hemorrhage reported by Dr. Hibberd. The Doctor's practice was good, for it succeeded; but I think a little sprinkling of cold water upon the face after the syncope has lasted a few seconds, as a general course, would be the best. And then let the patient drink plentifully of cold water and other fluids to fill up the empty blood-vessels.

We want no law in Tennessee to regulate the practice of medicine. Free medicine, our motto. The survival of the fittest.

J. W. DAVIS, M. D.

SMYRNA, TENN,

Editor American Practitioner:

HOT WATER IN CHOLERA MORBUS.—I have recently treated a few cases of cholera morbus with large injections of water, as hot as can be borne, and by hot water as a drink, with the most satisfactory results, even in cases attended with severe cramps.

From the good results observed in these cases I would not hesitate to use hot water in the treatment of true cholera. Might not the hot water, injected through a long rectal tube, enter the blood-vessels, and thereby to some extent compensate for the loss of the watery portion of the blood, even in the collapse state in true cholera?

LEVIN J. WOOLLEN, M. D.

VEVAY, IND.

CHANGES IN MEDICAL JOURNALS.—The Pacific Medical and Surgical Journal and the Western Lancet have united and will appear hereafter under the former title. The founders of the two publications, Dr. Gibbons, sr., and Dr. Whitwell, both able journalists, will remain as editors. We trust the profession of the Pacific coast will sustain what will assuredly be a first-class periodical, not only with their purses, but lend to its pages that practical interest which so many of them are capable of doing if they will but use their pens in its service.

The St. Louis Medical and Surgical Journal, edited for many years past by that indefatigable worker, Dr. Rumbold, has passed under the editorial charge of Dr. LeGrand Atwood, Dr. Rumbold retiring. Drs. H. Christopher of Missouri, Wm. A. Byrd of Illinois, and A. E. Prince of Illinois, are the associate editors. In such hands our valued contemporary can not fail to acquire a still stronger hold upon its numerous readers.

The Weekly Medical Review has added Journal of Obstetrics and Diseases of Women to its name, in order to cover a special department devoted to these subjects and edited by Prof. Geo. Engelman. Dr. Engelman is specially fitted for the work he has undertaken, and the Review, long one of the very best of our many exchanges, will present hereafter fresh attractions to its host of friends.

THE FUTURE OF SURGERY.—Mr. Jackson, Lecturer on Surgery at the Sheffield (England) School of Medicine, recently gave an address on A Quarter of a Century's Surgery, etc., which he concluded as follows: "I am inclined to think that, in future, we shall find surgery stepping in and dealing successfully with ruptured bladders, perforating ulcer of the stomach, and kidney diseases; but I do think we ought to make a stand against performing large operations on internal cancers until we know more about their laws of recurrence. I think we ought to watch with very great jealousy the results of our osteotomies, our abdominal sections, and drainage of pulmonary vomicæ. We ought to try to find out what is the best treatment for spinal diseases and diseases of bones and joints in their early stages; to invent some more satisfactory way of treating fractures; and to publish more of our unsuccessful cases."

Perhaps the most valuable point in the foregoing is to be found in the last sentence.

THE STATE BOARD OF HEALTH OF TENNESSEE.—Dr. C. C. Fite, the former very efficient Secretary of this Board, having resigned the position, Dr. J. Berrien Lindsley has been appointed in his stead. A better selection could not have been made.

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The American Practitioner.

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Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Communications.

NOTES ON EUROPEAN HOSPITALS.

BY DAVID PRINCE, M. D.

The tendency of modern times is to obliterate the peculiarities of nations and of smaller communities, enforcing a natural selection by which there comes a survival of the fittest. In writing about hospitals one is forcibly impressed with the fact that the field of difference is constantly becoming smaller. As compared with America, the tendency in Europe to change is less, because the force of tradition is greater there than here. This again grows out of the fact of our mixing of peoples and traditions, and the subsidence of the foolish or absurd, like the subsidence of clay in water under the action of currents and counter-currents.

The mixing-ground of America is a grand field of progress in the adoption of the better and the disuse of the inferior. It may be easy for the philosophers of any country to elaborate new or improved methods based upon better conceptions of principles, but to get them adopted—that is a difficulty more easily overcome among a people recently shaken up and recombined.

On landing in Liverpool I proceeded directly to the Royal

Infirmary, a building erected one hundred years ago, and badly arranged and badly ventilated. There I found Mr. Harrison, —called Mr. according to a custom peculiar to England of giving the title M. D. only to those who graduate in general medicine, while in Scotland it is common for surgeons to have the title, Doctor—I found Mr. Harrison alive with an idea, viz., that of relieving the difficulties arising from enlargement of the prostrate by making a straight passage. An operation is made something like that of median lithotomy, and afterward a straight catheter is worn for several weeks, until the healing process is complete around the catheter, which is then withdrawn and the external wound permitted to heal up. For a sufficient time longer a catheter is passed daily through the urethra. The bladder itself is washed out sufficiently often by weak, warm, carbolized water.

In London time permitted me to visit only a few of the hospitals. The particular subject most carefully observed was the general management with reference to the prevention of putrefactive complications in the management of wounds.

In Moorefield eye hospital there was a total disregard of those precautions which are now known under the name antiseptic, in four operations which came under my notice. The operation for enucleation of the eyeball was made in the ordinary way, after which a simple compress was laid upon the closed lids and retained by a bandage passed round the head.

In Charing Cross Hospital the spray was not used in an operation for the removal of the mammary gland. In Guy's Hospital the spray was employed in a circular amputation of the thigh converted into a hip-joint amputation in a case of hip disease.

In both the hospitals for females (the Samaritan and the Free Hospital) the spray was employed but in one case of ovariotomy by Richard T. Smith—attempted and abandoned on account of adhesion and a supposed malignant complication; the spray was kept going, but not directed upon the wound. In another ovariotomy in the same hospital on another day, made by Dr. Hayward Smith, the spray was kept blowing upon the wound.

The sutures employed in Charing Cross and Guy's were silver—the ligatures catgut, even upon parts not to be closed for adhesion; in the Samaritan Hospital for women, silk, and in the Free Hospital for women (Soho Square), silk-woven gut. In all the cases the material was taken from a solution of carbolic acid and immediately used. Iodoform was employed upon the external surface of ovariotomy wounds in the Free Hospital for women, but not in the interior. The dressing in all the hospitals mentioned was a simplification of the Lister methods. Boric acid was not used in any of the hospitals mentioned.

Paris: I visited the Hotel Dieu twice, the Hospital Necker, the Hospital Laennec, the Hospital Charité, the Hospital de Notre Dame de la Pitie, and the Hospital St. Louis, each once.

There is a great similarity in their general administration. The floors are uniformly waxed, and each patient has generally a bottle of wine, or at least the bottle which contained it. The food is plain, but abundant; the bouillon or soup is never absent and meat and potatoes are in sufficient allowance. The antiseptic management of sponges and dressings is every where introduced. The spray apparatus was seen in each hospital visited, but it is not generally employed in connection with operations. The ligatures have been uniformly of silk and the sutures of silk or silver. In the reduction of two sub-glenoid dislocations of the humerus in the Hospital St. Louis I saw in use a modification of Jarvis's adjuster, which seemed in no way superior to the American apparatus, except there is an attachment of a dynamometer so that the force is recorded. This is more useful for a scientific statement than for practical utility. The apparatus is constructed by Matthieu, and it was worked by a representative of that establishment. In both cases the reduction was secured by the tension of eighty kilograms or about one hundred and sixty pounds.

Generally there appears less tendency to adopt new measures and expedients in the Parisian hospitals than in those of London, and in those of London less than with us.

Geneva, July 8th: There is one principal hospital for Geneva, which has a population of about fifty thousand—this is the Hospital Cantoniere. Dr. Juillard is the principal surgeon of the hospital, and at the time of the Franco-German war many wounded soldiers were received at Geneva. Dr. Juillard succeeded in establishing on the grounds of the hospital barracks hospitals of a permanent character. The roofs are shingled, with openings from end to end near the ridge, made by elevating the upper portion of the roof above the plane of the lower portion. The ends and sides are open in fine weather, and closed in unpleasant weather by sail-cloth, which can be put upon a slant or rolled up at pleasure. These barracks afford in the summer time the comfort of a house with the ventilation of the open air. For typhoid and infectious fever and for surgical cases they meet a great necessity. There are nine of them in this establishment occupied respectively by the men, the women, and the children. The surgical cases are kept separate from the medical.

These barracks are fifteen meters (fifty feet) long, seven meters (twenty-three feet) wide, and the floor is raised two feet from the ground with a free circulation of air beneath. Dr. Juillard is very enthusiastic over this arrangement, and the wards are emptied into them to the extent of the capacity of the barracks. The wards in the building thus have an opportunity to be aired for several months and to lose any infection which they may have acquired during the winter.

I afterward saw similar barracks in connection with the Hospital Charité and the Augusta Hospital in Berlin. In the Augusta Hospital they are made a large element in the summer accommodation for patients, but they are inferior in construction to those seen at Geneva, as there is no ventilation under the floors, and they are not capable of being completely thrown open to the free air in pleasant days.

The hospital at Lucerne is a very old structure, but it is kept in a commendable state of cleanliness.

That at Zurich is a new structure, and I happened to see Dr. Kroenlein make an exploratory abdominal operation. Finding some other structure than that of an enlarged ovary, he closed the wound with silver wire sutures, plaster, gauze compress, and bandage. Catgut was employed for ligatures, and the final closure was secured by silver wire with buttons upon the cutaneous terminations of the sutures; the sponge had been soaked in carbolic acid. No spray was employed and no arrangement for a damp condition of the air of the room. The extremities were wrapped in cotton batting to keep them warm.

The Hospital Charité, in Berlin, is of great extent. Most of it is old, but there is a new structure erected expressly as a department for female surgery. The operating-room (like that at Zurich and like those of several other new hospitals) is floored with a concrete mosaic supposed to be non-absorbent of the fluids falling on the floor. In the general surgical department, the operating-room of which is old, the floor is of wood, painted, the cracks of which appear as if they might absorb septic material and retain it, to give it out again by evaporation.

In the hospital of the university clinic (another hospital) the concrete floor is made to incline toward the center, where there is an opening to receive all the fluids that fall upon the floor. This leads to a habit of letting all the fluids fall upon the floor without any attempt to receive them into receptacles, the spatter falling on the feet and trousers of the operator and the dressers, presenting a disgusting appearance of uncleanliness. Add to this the banishment of sponges and the supplement of gauze in all cases in which sponges are ordinarily used; at the conclusion of a series of wound-dressings the whole floor is strewn with the cast-off material filled with all manner of corruption.

In the private hospital (for women) of Dr. A. Martin, built at his own expense at a cost of four hundred thousand marks, or one hundred thousand dollars, the operating-rooms have floors of this kind, and the walls have no wood but that of the doors and windows, which are painted so as to be as nearly non-absorbent as possible. One of the rooms is devoted exclusively to abdominal sections.

In the general hospital at Hamburg, in addition to the operating rooms constructed in this manner, there is one built very recently, apart from the main building, so that several feet of space intervenes between its door and the nearest room occupied by patients. This is devoted to those cases in which the peritoneum is to be opened. These provisions are evidence of the extent to which the idea of septic contamination of the air of inhabited rooms has taken possession of the medical thought of the age.

In the direction of non-absorbent floors for hospital use, there is in the Health Exhibition, in London, a presentation of floors made by saturating hard pine with paraffin. First, there is a concrete foundation, and on this the floor is laid. It is directed that instead of the mode of tongue and groove in common use, the boards are to be beveled all in the same direction, so that the crack shall be slanting. It is supposed that a tighter fit can be secured in this way than in the ordinary style. A specimen is exhibited in which a floor of thin boards has been in use in a window exposed to the sunshine for ten years, and there is exceedingly little evidence of shrinkage of the wood. Medical thought is thoroughly directed toward the adoption of antiseptic precautions in all that surgery in which the occurrence of septic complications is nearly always fatal. In general surgery, in which septic complications are chiefly an inconvenience, the progress is slower in conceiving of the importance not only of antiseptic measures but of the danger of apartments in which the agents of sepsis may be hidden on the surface of floors, walls, and furniture.

In material for sutures and ligatures, silk previously soaked in solution of carbolic acid generally has the preference. In a few instances it was previously saturated with salicylic acid. Catgut was employed for ligatures in Zurich, and Charing Cross Hospital in London. Silver wire for sutures in Zurich. Silkworm gut-fiber was employed in one operation.

The use of mercuric bichloride was in general use in Berlin as a wash to be dripped over a wound during the progress of an operation by means of a pipe directed by an assistant, and deriving its supply from a reservoir generally held up by the hand of an assistant. This solution is generally of the strength of one to one thousand. It takes the place of the spray of carbolic acid. In the clinic of Dr. Bardeleben a solution of permanganate of potash was generally employed for washing the hands previous to the beginning of an operation. The strength was such as to afford a purple tint to the water. The strength was not measured except by the eye. No further use was made of it. The nail-brush was every where generally employed for the hands, and generally there was careful shaving and carbolizing of the skin through which an incision was to be made.

As an anesthetic the bichloride of methylene was employed in both the female hospitals of London. A cover is made to fit well over the mouth and nose, into which the vapor mixed with air is blown by means of a bellows, worked by hand or by foot, the air entering at the bottom of the fluid in a bottle and bubbling up through it, carrying the vapor with it. The effect was very satisfactory in all the cases in which I saw it used. The patients, after being once etherized, requested to breathe the anesthetic about half the time.

In one of the hospitals ether was employed in one operation just after the methylene had been employed in a previous operation. The action of the ether was very satisfactory, though the patient breathed the ether a greater portion of time than had been the case in the other operation. Chloroform, however, is the favorite anesthetic in London, given by dropping it upon flannel stretched across a circular loop of wire.

In Paris the anesthetic employed was uniformly chloroform, given upon a square folded napkin held over the mouth and nose.

In the Hospital St. Louis I saw it given by pumping the vapor from a receptacle standing upon a distant table into an inhaler fitting over the nose and mouth. After the patient was placed upon the operating-table the chloroform was continued by dropping it upon a square napkin held over the mouth and nose.

In the Hospital Charité it was given in an operation for cancer of the breast in a manner to indicate fear of its effects. The patient was at first allowed to hold the napkin in her own hands, after which it was held by an assistant. The patient, however, was allowed to be fully awake during the latter half of the operation. She made great outcries, but the operator proceeded without attention to her cries, and without any remark explanatory of the reason for the lack of anesthesia.

In the hospitals visited in other cities upon the continent, chloroform was the only anesthetic which I saw employed. The mode was generally by means of flannel stretched across a wire concave frame, so that the nose projected into it.

No fear of the occurrence of a catastrophe in the use of chloroform was generally exhibited. In an operation for the removal of a testicle by Dr. Bardeleben, in the Hospital Charité, in Berlin, the patient ceased to breathe. An assistant applied forceps to the tongue and drew it forward, and another assistant immediately applied the poles of a galvanic battery (which always stood ready in a convenient place) to the opposite sides of the neck, permitting the induction current to flow once in about four seconds. The effect was to cause a contraction of the chest and a raising of the arms, with a contraction of the forearms. Dr. Bardeleben went on with the operation without any expression or appearance of alarm. By the time the operation was completed the respiration had become pretty well established. Dr. Bardeleben, however, took the poles into his own hands and varied the application, producing various contractions of the included muscles. No attempt was made to change the patient from his position upon the back, much less to practice the ready method. No explanation whatever was made, nor was any thing said to indicate that any thing unusual was happening.

Not seen in Europe: Among the things not seen in the hospitals of Europe I visited, are: A good mode of suspension in the treatment of fractures. In the Hospital Charité, Berlin, Dr. Bardeleben spoke of the extension practice there as a thing derived from America. The mode is that originally introduced by Dr. Buck, of New York, consisting in a horizontal pull by a cord and weight over a pulley. In some fractures of the thigh in children a mode of suspension was practiced by a band under each popliteus, suspending it to a cross-bar above while the ankle was attached to a foot-pin by means of another bandage. The suspension as practiced by Dr. Nathan N. Smith, or as improved by Dr. John T. Hodgen, was nowhere seen employed. A good method of attaching plaster to the leg was nowhere seen in the treatment of fractures, notwithstanding the method of employing a tin splint for plaster in orthopedic practice, as introduced many years ago by Dr. Barwell, in his little book on the treatment of club-foot. The employment of the gypsum bandage is every where in common use for fixation in fractures and in all cases where it is desirable to secure immobility.

A practice of dusting iodoform into wounds as an antiseptic precaution, very common with us, was not seen in the hospitals I visited in Europe, though the practice originated in Vienna. In many cases, however, I saw this agent dusted on after the completion of the sutures.

The application of hot water for the arrest of hemorrhage in the course of surgical operations was not seen resorted to, although it has become a daily practice with us. I saw (in the Charing Cross Hospital, London) many minutes consumed in tying small arteries after amputation of the breast which would have immediately closed up by the application of hot water. With us it has become common to apply boracic acid directly to wounds not expected to heal by first intention, and to apply the same agent to suppurating wounds as an antiseptic absorbent at the same time. This was not seen done in Europe.

The employment of borated cotton was occasionally seen as an application over the immediate dressing, which was generally a non-adhesive plaster laid as a narrow strip along the course of the suture. In a few instances the yellow adhesive plaster was applied transversely to the line of suture in the old-fashioned way.

In ovariotomy it has become the practice in America, originating in New York, to turn the patient on her side at the time of evacuating the fluid contents of the cyst in order that it may not be accidentally spilled into the abdominal cavity. Several operations of this kind came under my observation, by Knowsley Thornton, Richard T. Smith, and Hayward Smith, in London, and by Dr. Krönlein, in Zurich, and Dr. Gusserow, in Berlin, but in all the cases the patient was kept from beginning to end on her back. In one case in London, the patient was strapped to the table by a broad leather band passing over the thighs and under the table.

Jacksonville, Ill.

TRACHEOTOMY FOR A FOREIGN BODY IN LEFT BRONCHUS.

BY W. CHEATHAM, M. D.
Lecturer on Diseases of Eye, Ear, and Throat, University of Louisville.

Jacob Zinsmeister, age forty-two years, weight one hundred and seventy-five pounds, while eating soup, February 28, 1884, had some foreign body, the nature of which was not suspected at the time, to enter his trachea. It gave but little trouble at the moment, and practically none until March 7, 1884, at 9:30 P. M., when paroxysms of cough accompanied by a sense of suffocation, with expectoration of frothy bloody sputa occurred. I saw him on March 8th, with his family physician, Dr. Buckle. We found on that day sputa still bloody; respiration, labored, the vesicular murmur of left lung being almost entirely absent. Fearing the return of the foreign body and its engagement in the rima glottidis, with a fatal termination, we advised tracheotomy as a safety-valve, and naturally with some hope of the removal of the foreign substance. His family objected to the operation. The unfavorable symptoms increased so rapidly though during the day, that we were summoned that afternoon to operate. There was nothing new in the method of operating; local anesthesia was used; all passed off well; hemorrhage only slight. Trachea was exceedingly sensitive to touch. In attempting to use a small laryngeal mirror through the tracheal wound to endeavor to discover location of foreign body, tremendous paroxysms of coughing were brought on, so severe as to excite great apprehension. Of course no tube was used; instead, two strong threads were passed deep into the tissues through the edge of the incision in the trachea, one on each side, and to these pieces of tape were attached, and instructions given to the nurse as to their manipulation in case of danger. The wound was kept open for two or three weeks by frequent separation of its lips; carbolized lint laid over it. During most of this time breathing in the left lung was completely obstructed. To March 20th pulse ranged from 90 to 132, temperature from 102.5° to normal, at which it was the last day I visited him. Respiration reached 56 March 17th. It was normal the last day I saw him; that of left lung almost completely restored. The wound was now allowed to close with the hope that the foreign body had been disposed of in some way; we never for a moment suspected the foreign substance to be bone, as the patient's wife had asserted positively there was none in the soup he was eating. Some few days before I ceased my visits a piece of cartilage of considerable size passed through the wound; this we surmised was the foreign body. The wound healed kindly. A short time after I discontinued my visits, he went to work. In two weeks he gained six pounds in weight. On May 1st, Dr. Buckle was again called in. He found pulse 120, temperature 102.5°. Patient complains of alternating chilliness and heat; has cough and expectoration of yellow mucus mixed with pus; weight had fallen to 140 pounds. This is the last record we have of the case until we hear of his death, July 6th. Dr. Krim, the then attending physician, procured at the post-mortem the trachea and part of left bronchus, showing that the foreign body was bone and the point at which it had seemingly been impacted. Five days before death, Mr. Z., while coughing violently, expectorated a mass of mucus and pus containing the piece of bone, which measured five eighths of an inch in length, about one half an inch in width, and three eighths of an inch in thickness, being about the size of the average rima glottidis. It is marvelous that a foreign body of such size could pass both ways with so little discomfort. The left lung was completely broken down.

A question of importance here presents itself: Is tracheotomy justifiable under such circumstances?

Dr. Weist, of Indiana, in a paper read before the American Surgical Association, June 1, 1882, on Foreign Bodies in the Air-passages, based on 1,000 cases, draws the following conclusions:

1. When a foreign body is lodged either in the larynx, trachea, or bronchia, the use of emetics, errhines or similar means should not be employed, as they increase the sufferings of the patient, and do not increase his chances of recovery.

2. Inversion of the body and succussion are dangerous, and should not be practiced unless the windpipe has been previously opened.

3. The presence simply of a foreign body in the larynx, trachea, or bronchia does not make bronchotomy necessary.

4. While a foreign body causes no dangerous symptoms bronchotomy should not be performed.

5. While a foreign body remains fixed in the trachea or bronchia, as a general rule, bronchotomy should not be practiced.

6. When symptoms of suffocation are present, or occur at frequent intervals, bronchotomy should be resorted to without delay.

7. When the foreign body is lodged in the larynx, there being no paroxysms of strangulation, but an increasing difficulty of respiration from edema or inflammation, bronchotomy is demanded.

8. When the foreign body is movable in the trachea and

excites frequent attacks of strangulation, bronchotomy should be performed.

I shall feel it my duty in all such cases to advise tracheotomy. I think the dangers of such an operation almost nothing when the subject is in a reasonably good condition.

THE COMMUNICABILITY OF PULMONARY TUBERCULAR CONSUMPTION.*

BY G. W. M'CASKEY, A. M., M. D.
Professor of Diseases of the Throat, Nose, and Chest in Fort Wayne College of Medicine.

It is proposed in the present paper to touch in a very elementary way upon a few of the arguments which have been brought forward to establish the communicability of pulmonary phthisis, and to emphasize one or two practical hints as to the means of preventing the spread of the disease by contagion. The contagiousness of pulmonary phthisis can best be decided by experimental and clinical evidence.

As furnishing a rational basis for evidence of an experimental nature, the bacillus theory of the causation of tubercular phthisis should be first considered. Regarding this theory there are two main questions involved: First, the existence in tubercular growths of a bacillus distinguished by its reaction and form from other species; and, second, the relation, whether of cause or effect, which it bears to the morbid process. Although the evidence on the first of these questions is somewhat conflicting, I think a careful study of the subject can not fail to prove that there is a peculiar organism constantly associated with tubercular change. That the subject has made more than a transient impression upon medical literature is shown by such facts as these: Professor Flint, in the last edition of his work on the Practice of Medicine, discusses the question in its bearings on the etiology, pathology, diagnosis, prognosis, and treatment of pulmonary tuberculosis in an exhaustive manner; while Professor Gibbes, of Westminster Hospital, London, in his work on Histology and Pathology, devotes two chapters to the bacilli of tubercle and anthrax. It seems to me difficult to avoid the conclusion that such investigators as have failed to find the bacilli of tubercle do so because they are not dealing with genuine tuberculosis. As Magnin says, "Their absence in the few cases can be explained on other grounds." For instance, they may and probably do disappear in the older, non-progressive, or retrogade masses.

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*Read before the Allen County Medical Society, May, 1884.

But many who admit the existence of a peculiar bacterium claim that it is a result of the disease, and grows because the soil is favorable. This question must be very largely decided by experimental pathology; because, in microscopic examinations, it is often a matter of doubt as to which ante-dates the other. But if the morbid process is the direct result of the organism, this fact is capable of demonstration within certain constantly diminishing limits of error.

The production of tuberculosis by the inoculation of tuberculous matter manifestly proves nothing regarding the properties of the micro-organisms. It simply proves the communicability of the disease, but it does not indicate the histogenetic or chemical factor in which the virus resides. Culture experiments, those in which a small quantity of tuberculous matter is placed in a nutrient infusion and inoculation practiced with the product, are open to the same objection. It matters not how much the virus may be diluted; we still remain in as entire ignorance of the toxic dose of the poison as we are of its nature. The septic poisoning which results from the prick of a contaminated needle, for instance, teaches how infinitesimal is the quantity required to produce fatal results.

It is impossible by the method under consideration to entirely eliminate tissues in which bacteria are found. While the obstacles to the isolation from the tissues of objects so minute as bacteria appear at first sight insurmountable, the method of cultivating them on solid media under the eye of the observer, and with all other needed precautions, would seem to perfectly fill all requirements. For example, on the smooth surface of solidified blood serum, or gelatine containing meat infusion, a few bacteria are planted by making a slight scratch with a pin previously dipped in the infusion under investigation. In doing so of course the medium in which the bacteria existed is planted at the same time. The process of elimination has not yet commenced. In a variable length of time, depending on the species of bacteria, the temperature, and perhaps other conditions, the developmental process goes on, and the bacteria multiply in number. But multiplication means extension; and the newly formed cells crowd over the semi-solid mass in every direction. Now it is fair to assume that bacteria, two or three hundred removes from the original point of infection, have freed themselves by their peculiar process of growth and locomotion from every trace of matter with which they were originally in contact. But the process does not stop here. Some of the most distant bacteria are removed to a fresh soil, and the same thing repeated again and again until contamination of the bacteria by the original solution or tissue is scarcely possible. The blood serum or gelatine, containing meat infusion, has been thoroughly sterilized by the process of discontinuous heating, and is therefore assumed to be perfectly free from organisms. As a result, the bacteria are contained in a perfectly pure medium, entirely eliminated from the soil in which they originally grew. Any such morbid results as follow inoculation of bacteria thus developed, can not logically be assigned to another cause. If like results follow experiments made with these as follow the inoculation of tubercle, it is then demonstrated that the *materies morbi* which the latter contains was either bacteria or the products of bacterial growth. Experiments made by introducing bacilli into superficial parts are more readily studied and more easily controlled. If now transparency be added to accessibility, the conditions are entirely favorable to accurate and trustworthy observation. Just these conditions, as is known, are met with in the anterior chamber of the eye.

The investigations of Watson Cheyne have been selected as representative of the best work done, perhaps, with tubercle. Before Mr. Cheyne began his experiments he visited the laboratories of Koch, Toussaint, and others. Koch, it is unnecessary to say, placed his material, methods, and laboratory entirely at Mr. Cheyne's disposal.

When Mr. Cheyne returned to London he brought with him the necessary material for farther study. He had acquired all of Koch's methods and adopted them. He rubbed up a small quantity of blood serum, which by careful microscopical examination had been shown to contain absolutely nothing but the bacilli under investigation, with boiled distilled water. An almost infinitesimal quantity of this was injected into the anterior chamber of the eye. The traumatism produced by the needle rapidly disappeared. The eye remained for a short time seemingly well; but at the end of a few days a slight opacity developed at the point of injection, and this opacity proved to be true tubercle, which rapidly involved the whole eye, and in due time showed itself in other and distant parts. Now, to what other possible cause than the injected bacilli can the tubercle be due? The time which elapses between inoculation and development depends directly on the number of bacilli injected. If one eye receives more than the other the morbid process in that eye will begin sooner and progress more rapidly. Germicides mixed with the bacilli before injection have, as would be supposed, a markedly retarding and even preventive power over the development of the tubercle.

The numerous experiments in which tuberculous material was inoculated beneath the skin, converted into spray and inhaled, and introduced with food, with the pretty uniform production of the disease, are too familiar to require more than a passing notice.

The only two avenues of escape from this demonstration that tubercle is a specific disease, and can be produced by Koch's micro-organism are, first, the uncertainty regarding the histology of tubercle; next, that it may be produced by non-tuberculous matter. The question of its histology will be discussed by quoting, in my opinion, Cohnheim's assertion, "there is no anatomical definition of tubercle."

The production of tubercle by inoculation with non-tuberculous material requires more than a passing notice. Dr. Andrew Clark and, later, Dr. Burdon-Sanderson, by experiments of this nature threw considerable doubt over the reliability of Villemin's conclusions. Dr. Sanderson succeeded repeatedly in producing tuberculosis not only by injections of non-tuberculous tissues, but by a seton of unbleached cotton. In like manner Dr. Wilson Fox produced tuberculosis twenty-five times in sixty-four experiments by the insertion of various healthy and diseased tissues, etc., three out of twenty-four insertions of silver wire being successful. Cohnheim and Franckel fully confirmed these experiments, but the atmosphere of their laboratory had become putrid by experimentation, and when their experiments were done in a different atmosphere they succeeded in no instance in producing tuberculosis by the use of non-tuberculous matter.

The explanation of Cohnheim's and Franckel's failure to verify the specificness of tubercle thus furnishes the most remarkable support to a theory of which Cohnheim is now a supporter.

My object, as stated in the beginning of my remarks, is simply to present here what is believed to be the present status of the question, with examples of the evidence on which it rests. Even from the brief resume given I think it may be safely asserted that Koch's bacillus is constantly associated with tubercle, and that it is a cause of tuberculosis. Yet it would be unjust to contend that the inoculability of tuberculosis proves also its communicability by contact, notwithstanding that experiments on dogs made tuberculous by inhaling atomized tubercle would seem to prove the possibility of inhaling the virus, and thus contracting the disease. It also seems fairly demonstrated that the sputum does commonly contain the bacilli.

The question then resolves itself into this: Does the subject of tubercular consumption exhale the virus? It may be answered that in ordinary, quiet breathing the bacilli are probably not exhaled. But, as we all know, quiet breathing is not the rule in patients whose lungs are breaking down; all such persons have in addition to diminished air area more or less cough, by which both mucus and broken-down tissue containing the tubercular virus are expelled. This sputum in time dries, becomes disseminated in the near atmosphere, and may be taken into the lungs of others and thus produce tuberculosis in persons who were previously healthy. That such is the case I believe there is no reasonable doubt. M. Vignal has recently produced tubercle in healthy guinea-pigs from the sputum of phthisical patients collected from the street pavement.

I am aware that it is urged against this view that, were it correct, tuberculosis would be far more common than it is. Yet, when it is remembered that three millions of lives are annually destroyed by tubercular consumption, the number surely appears sufficiently large to satisfy every requirement in this direction. There is abundant evidence that tuberculosis is developed by using the milk from cows, themselves the subject of pearl disease, or bovine tuberculosis, especially if the udders are involved. We furthermore know that the belief in the contagiousness of phthisis has long had a hold on the popular mind; and that while popular beliefs are not always wholly true, they almost invariably have some basis in fact. The number of instances in which healthy men have apparently contracted the disease from tuberculous wives, and *vice versa*, certainly lends great weight to this belief.

The question of prevention here presents itself. Isolation of the subjects has, very properly I think, been condemned as both cruel and unnecessary. But certainly something ought to be done. Complete destruction of the sputum should in all cases be insisted upon. Attendants should be warned against such close contact with consumptive patients as would lead to their breathing the air expired by them, and this warning be especially insisted on if the patient has the slightest cough. Respirators of sponge or other material should be used if the cough be considerable, and if properly medicated would not only avert contagion but in some cases benefit the patient.

To summarize: The inoculability of tuberculosis having been admitted, and the exact nature of the virus clearly demonstrated, its communicability by contact becomes more than probable. The sputum having been shown under certain conditions to contain the bacilli, constitutes when dried and pulverized a part of the atmospheric dust and its inhalation is *certainly a possible cause of pulmonary phthisis.* To guard against these dangers the breath of consumptive patients should be carefully avoided, and the sputum of such persons systematically destroyed by burning or other efficient means.

FORT WAYNE, IND.

EXCISION OF PATELLA—A CASE.

BY W. M. FUQUA, M. D.

In August, 1877, I visited Betty H., aged twelve years, the daughter of a well-to-do farmer. I found her pale and emaciated from long in-door confinement, sleepless, and restless; was propped in an arm-chair, with feet resting upon a stool, right knee-joint much swollen, with fluctuation, and flexed at a right angle. A small sinus opened on the outer margin of the patella, through which the bone was discovered to be carious with its attachments loose. She was of scrofulous diathesis, and had a brother with caries of the tarsus, though the disease was ascribed to slight injury in both cases.

I made a linear incision an inch long in the axis of the limb directly over the patella, and with a few touches of the knife freed the bone from its attachments and removed it. The joint was opened in the operation, and its contents, serous and of a deep straw color, escaped to the amount of four ounces. After washing out the joint with a two-per-cent solution of carbolic-acid the edges of the wound were carefully approximated with adhesive strips, over which a firm bandage was applied, and directed to be kept continually moist with the carbolic-acid solution. The patient was placed in bed and given a full dose of Dover's powder. The limb continued in a semi-flexed position. Passive motion was enjoined and the dressing not to be removed for five days, provided no pain occurred. The wound united in the course of a few days, and the joint was free from pain and swelling. The syrup of iodide of iron and tincture of bark brought the patient rapidly up, with such motion of the knee-joint as to soon enable her to walk in perfect comfort. In the International Encyclopedia of Surgery, vol. iv, Ashhurst reports seventeen cases of excision of patella, tabulated by Heyfelder, Bœckel, Knode, Wood, Gay, and Agnew; of this number three are said to have proved fatal, three to have required subsequent amputation, while eleven terminated successfully. I am glad to add another successful case to the list.

HOPKINSVILLE, KY.

Reviews.

Fat and Blood: An Essay on the Treatment of Certain Forms of Neurasthenia and Hysteria. By S. WEIR MITCHELL, M.D. Third edition. Philadelphia: J. B. Lippincott & Co. 1884.

In the preface to the present edition of this sterling work, the author states that he has rewritten parts of the book, and has enriched it with many practical hints concerning the use of milk.

In a notice of the work when it first appeared we stated that Dr. Mitchell had made in the method he originated a substantially valuable addition to therapeutics, the importance of which was at that time perhaps hardly appreciated. A third edition of the compact little volume attests the interest which its teachings have excited, while the general adoption by the profession, both at home and in Great Britain, of the practice which it inculcates has done much to lessen the sufferings of the class for which it was especially written.

Diphtheria, Croup, etc.; or, The Membranous Diseases: Their Nature, History, Causes, and Treatment; with a Review of the Prevailing Theories and Practice of the Medical Profession; also a Delineation of the New Chloral-Hydrate Method of Treating the Same, its Superior Success, and its Title to be considered a Specific. By C. B. GALENTIN, M.D. Cleveland, O.: Printed at the Publishing House of the Evangelical Association. 1884.

Had the author of this book brought it to an end with the "Chloral-hydrate method of treating" diphtheria and croup, and made no claim to chloral being a specific in these affections, he would have furnished an interesting and instructive volume, for his account of the nature, history, etc., of these and other membranous diseases shows research and discrimination.

Within a period of about nine years the author has, he tells us, treated over five hundred cases of well-marked diphtheria with chloral-hydrate with a loss of less than two per cent—which, to paraphrase a reply of Mark Twain to a noted verbal colorist, merely means that some diseases are more abundant in some towns than in others, and some medicines effect more cures in some men's hands than in others. Under the treatment in general use, and which our author had employed up to the time when he discovered the powers of chloral, the mortality in his diphtheria cases was about that of physicians generally, that is, twenty-five to thirty-three per cent. The mode of giving chloral pursued by Dr. Galentin is in small doses repeated often enough to produce its full hypnotic effect. This condition is to be kept up until the nausea, headache, difficulty of swallowing, fever, etc., disappear.

Hand-Book of the Diagnosis and Treatment of Skin Diseases. By Arthur Van Harlingen, M.D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. With two colored plates. 12mo, pp. 282. Philadelphia: P. Blakiston, Son & Co. 1884.

The author of this conveniently small work is a physician, who, having had abundant opportunity to acquaint himself with the diseases of which he writes, has embodied his experience within a compass and with a practical directness which fits it for the general practitioner and makes it especially useful as a work of ready reference.

It is a book on diseases of the skin wherein pathological anatomy is not mentioned, and questions of etiology but lightly touched on; and, what is almost as noticeable, where the commonest affections and those giving most distress and annoyance to the patient have been treated at full length, and the rarer diseases dealt with briefly. These features commend it to the every-day practitioner for whom it was written, and no better book could be placed on his library table.

Hooper's Physician's Vade Mecum : A Manual of the Principles and Practice of Physic, with an Outline of General Pathology, Therapeutics, and Hygiene. Tenth Edition, revised by WM. AUGUSTUS GUY, M.D., Cantab., F. R. S., Fellow of the Royal College of Physicians, etc., and JOHN HARLEY, M.D., Lond., P. L. S., Fellow of the Royal College of Physicians, etc. Vol. I. 53 illustrations, 8vo, pp. 338. New York: Wm. Wood & Co., 56 & 58 Lafayette Place. 1884.

The May number of Wood's library appears under the above title. The work, we are told in the introduction, is intended to be, in the largest sense of the term, a practical work, and is believed to contain those items of information which the practitioner would most desire at the bedside, or when studying a case with an eye to its treatment.

The volume before us is reprinted from the tenth English edition, which itself is of very recent issue, and may therefore be safely assumed to contain whatever is latest in medicine.

Text-Book of Medical Jurisprudence and Toxicology. By JOHN J. REESE, M.D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. 12mo, pp. 597. Philadelphia: Blakiston, Son & Co. 1884.

The name of the writer of this text-book is a sufficient guarantee that the work contains all that is soundest and best in the subjects of which it treats. The book will prove a ready help to both the doctor in medicine and the doctor in law, and should be in the hands of all in either calling who desire to keep abreast with medical jurisprudence and toxicology.

Materia Medica and Therapeutics: An introduction to the Rational Treatment of Disease. By J. MITCHELL BRUCE, M.A., Aberd., M. D., London. Philadelphia: Henry C. Lea's Sons & Co. 1884.

Every number of this series of English "Manuals for Medical Students" that has been republished in this country has been a useful book. The present volume has evidently been prepared by one who understands the wants both of the practitioner and student who is preparing for the green-room. Publishers who bring out such books in a way so pleasing to the eye render a real service to the profession.

Visions of Fancy. A poetical work. By N. M. BASKET, M.D. St. Louis, Mo.: Commercial Printing Company. 1884.

It is pleasant to know that there are physicians who, in the midst of work which incites neither imagination nor fancy, still cultivate the poetic faculty. The author of the present little volume affords an instance of a doctor engaged in active practice who has found time to write many creditable verses and some genuine poetry. The book is well worth reading, and we hope will find many purchasers both in and out of the profession.

Fifth Annual Report of the State Board of Health of Illinois. Springfield, Illinois. 1883.

Dr. John H. Rauch, the Secretary of the Health Board of Illinois, has furnished in the foregoing report a model for such work which it would be well for secretaries of similar organizations to copy. We would consider it a wise expenditure of money on the part of the State to place the volume in the hands of every householder within its limits.

Clinic of the Month.

The Plaster-Posterior Splint in the Treatment of Fractures of the Leg.—Dr. George W. Gay, of Boston, read, at the last annual meeting of the Massachusetts Medical Society, a paper on this subject which is of such practical interest that we republish it here in full. We are pleased at being able to note that the light which has so long been shining in the West is at last illuminating our brethren in the East.

The ideal dressing for a broken leg must be simple, comfortable, cheap, readily obtained, easily applied and removed, and must allow a frequent inspection of the limb without disturbing the patient. It must be applicable to all cases; capable of correcting any and all deformities, and of retaining the fragments in the desired position for an indefinite length of time; not liable to produce abrasions or other mischief; and once properly adjusted it should require little attention during the progress of the case.

Such an appliance has never to my knowledge been brought to the notice of the profession, but one that seems to combine more of the desirable qualities than any other is the plaster-posterior splint, which has now been in constant use at the City Hospital for several years, and which has become a standard method of treatment in that institution.

The splint is made of sheet wadding, a coarse muslin or crinoline, and plaster of Paris. It may be applied as follows: The leg is washed and dried, and enveloped in the cotton, which has been torn into strips about four inches wide, sewn together, and made into rolls like an ordinary bandage. Enough should be used to protect the bony processes and tendo-Achillis from pressure.

A single layer of the gauze large enough to extend from the toes to above the knee is to be placed beneath the limb, closely wrapped about it, and cut so as to completely surround it, with the exception of a space about an inch wide on the anterior aspect. This piece serves as a pattern by which the other layers, six or eight in all, are to be made. The muslin is to be slashed on each side opposite the point of the heel to allow the foot-piece to be brought to a right angle without forming clumsy folds. Other slashes may be required to make the dressing fit snugly and smoothly, and to prevent wrinkles.

Fresh plaster of Paris mixed with warm water to the consistency of cream is now to be thoroughly rubbed into each layer of the gauze, and the whole applied to the limb at once, molded closely and carefully to it and firmly secured with a common bandage. The fragments are to be held in their proper place until the splint has become sufficiently firm to prevent displacement, which with good plaster is not over fifteen or twenty minutes. In some cases this object may be accomplished by means of sand-bags or pillows. In a few hours the outer bandage may be removed, the cotton wadding cut open with scissors, and the appliance is complete, and may be worn with comfort for several weeks.

A certain amount of judgment and tact is required to use this dressing satisfactorily, but no more than is necessary in the treatment of fractures of the leg by any other method. A little experience will enable any one to become familiar with the practical details of applying this bandage, and the field of its usefulness will be found to increase in proportion to one's familiarity with it.

Particular attention is called to a few points in adjusting this plaster case. The greatest pains should be taken to hold the fragments in their proper position until the plaster sets, otherwise they may get displaced, when a new bandage will be required or a deformity will be the result. The foot should be placed at nearly a right angle to the leg, especially if the fracture is at or near the ankle joint. Little padding is required except about the heel and malleoli. Care should be taken that no wrinkles or folds be allowed to press upon the limb. The splint should reach the metatarso-phalangeal articulation below, and as a rule should extend above the knee, particularly in children, to prevent twisting of the fragments in their long axis, or, in other words, to hold the foot in its natural relation to the knee. It should embrace about three fourths of the circumference of the limb in order to give the desired support, and to retain itself in position.

This dressing is especially adapted to cases of simple fractures of the tibia, or of the tibia and fibula, which are not attended with serious injury to the soft parts, and in which no great amount of force is required to maintain the fragments in their proper place. It is very convenient in the treatment of these injuries in children. Applied under ether it is firm and solid before the patient awakes, and does not require frequent tinkering during recovery, as do many other appliances. The advantages of a dressing which does away with the pain and fright so commonly attending the ordinary treatment of fractures in children can not be too highly appreciated.

Certain cases of compound fracture of the leg can also be satisfactorily treated with the plaster tray, if the soft tissues are not too extensively injured, and if the wounds be so situated that they can be exposed through apertures in the splint for purposes of cleanliness and local applications. For this class of injuries the bandage may be strengthened with strips of hoop iron, lined with oiled silk, and kept in position by means of straps with buckles.

Properly applied to the above-mentioned classes of injury the plaster-posterior splint is comfortable and efficient; it is self-retaining; it holds the fragments firmly in position; it allows the patient to be moved, or to move himself without danger of disturbing the fracture; it permits the parts to be readily examined; being opened throughout its entire length the bandage accommodates itself to the swelling of the limb without danger of strangulation; it can be applied immediately after the accident, there being no necessity for waiting until the inflammatory stage has subsided; it can be removed and readjusted with ease, and can be worn indefinitely.

Contrary to the teaching of some authorities, the writer believes in frequent examinations of broken limbs until the fragments are so closely joined that they can not be easily displaced. It must be a very exceptional case in which union is prevented by too much manipulation. Broken ribs and collar bones, though necessarily subjected to constant motion, almost always unite well. So do fractures complicated with delirium tremens, or excessive restlessness, or insubordination, in which the parts often sustain great violence.

If the physician would avoid deformed limbs, splint sores, and lawsuits, he must, by personal examination, keep himself constantly informed as to the position of the broken bones and the condition of the soft parts, even at the expense of considerable discomfort to the patient. Temporary pain caused in this manner is of little importance compared to the life-long mental and physical distress which may result from an unnecessary deformity.

The susceptibility to pain differs so greatly in individuals that it is not safe to rely wholly upon their sensations in determining the compression of a bandage. The only safety lies in watching the circulation of the toes, and in making careful examinations of the limb, being guided to a certain extent by the sensations of the patient. It is to be remembered that some persons with a fracture will always complain of pain, whatever treatment is followed. As these patients generally eat and sleep well, and remain in good condition, opiates are to be given sparingly, if at all.

The position of the fragments incased in the apparatus under consideration can frequently be determined by simply sliding the fingers along inside the splint without removing it. But to thoroughly examine the parts the tray must be forcibly sprung open, and the leg carefully lifted out.

As plaster of Paris is brittle, and not elastic, frequent removals of the dressing tend to weaken it. Whenever it becomes loose from this cause, or from wasting of the limb, it may be tightened with straps, or a new one may be applied. In many instances one bandage is sufficient for the entire treatment.

Not infrequently this dressing is applied to fractures of the leg, at the City Hospital, within twenty-four hours of the accident, and not disturbed until the fragments are firmly united and the recovery is complete.

The results obtained with this method of treatment are probably no better than those following the use of side splints, fracture boxes, etc.; but there is a great saving of time and labor to the surgeon. There is not that necessity for a frequent readjusting of splints and bandages which is so essential with most other appliances.

The writer wishes it to be distinctly understood that this dressing is not adapted to all varieties of fracture of the leg. For example, some cases of Pott's fracture accompanied by marked eversion of foot, requiring strong pressure to restore and retain it in its proper position, can perhaps be better treated by other methods. So likewise may those bad cases of oblique fracture of the tibia, the fragments of which override each other to a great extent. Severe contusions of the soft parts should not be subjected to pressure until all danger of ulceration and sloughing has passed. The presence of blebs or blisters, however, does not necessarily preclude the use of this dressing, as they may often be treated through an opening in the plaster.

It has always seemed to me that those physicians who permit their patients to move about on crutches a few days after an immovable bandage of any kind has been applied to a recent fracture of the lower extremity allow their enthusiasm to get the better of their judgment. The complications liable to occur during the repair of broken bones are so numerous and at times so insidious, and suits at law for malpractice are so common, that in my opinion no adult should be allowed to move about until there is fair union of the tibia and fibula, which usually requires from four to six weeks, and very little weight should be put upon the limb for some time longer. There can be no doubt that deformity occasionally takes place in these cases from the patient's getting up too soon, while the union is green, thereby allowing the fragments to gradually yield under the weight of the body.

Those cases of fracture of the lower end of the fibula and rupture of the deltoid or internal lateral ligament of the ankle, accompanied with an outward dislocation of the foot, are often very difficult to manage, and require a longer confinement than any other simple fracture of the leg, three or four months being necessary in some instances to insure sufficient repair to prevent future deformity. In some of these cases it is impossible to avoid a little eversion of the foot, whatever may have been the treatment, and however long it may have been continued. The writer has seen recurrence of the dislocation after three months' confinement. He has also seen two or three cases in which the inner malleolus had been exposed by ulceration due to a return of the deformity after a fair union had apparently taken place. He would never permit a person weighing one hundred and fifty pounds to bear his weight upon a Pott's fracture under three months, and the greater the weight the longer should be the period of rest.

A different line of treatment, however, is called for in some cases of fracture of the shaft of the long bones, more especially of the femur. When the union is imperfect at the end of three months or thereabouts, nothing does so much good as to incase the limb in an immovable bandage and get the patient up on crutches. The local irritation which results from this practice tends to excite the reparative process to that degree that the fragments become firmly united in a comparatively short time.

In conclusion allow me to say, that while I do not think the plaster-posterior splint is adapted to all fractures of the leg, yet in the classes of cases specified in this paper I most heartily recommend it, hoping that a fair trial will convince some surgeons, as it has the writer, that the dressing combines more good qualities and fewer bad ones than any of the common appliances in use at the present time.

On Uterine Hemorrhage and a New Method of Treatment.—Richard Richardson, L. R. C. P., Rhayader, read, in the Section of Obstetric Medicine of the British Medical Association, the following: The treatment which has been most successful in my hands during a period of twenty years, and which can be easily applied without any apparatus, consists in iron alum when applied in crystals of the size of a hazel-nut, or even larger in a severe case. It is to be introduced with the finger up to the os uteri (and not into it), and there allowed to remain. The uterus will at once contract, a firm coagulum is formed, and the hemorrhage at once ceases. Iron alum is also antiseptic, as I have removed clots on the fourth and fifth day after its application which were quite free from any disagreeable odor. In a case of very severe hemorrhage, two or three days afterward I inject a little warm water (to which may be added, if you like, a little Condy's fluid) and remove the clots. It is perfectly free from danger, and I have never known it to fail.

Case I. My first application of iron alum was in the case of a woman, aged forty-three, troubled with metrorrhagia for about nine days, and recurring every two or three days; she was the mother of six children, the youngest of whom was four years old; the catamenia had appeared very regularly since she weaned her last. She was sure she had not aborted, as she was "poorly" a fortnight antecedent to the hemorrhage, which was the proper time for menstruation. On examination, I discovered a granular ulceration of the cervix; I treated her with quinine, digitalis, gallic-acid, and sufficient dilute sulphuric-acid to dissolve the ingredients. She was ordered to remain in the recumbent posture with cold cloths applied to the vulva. In three days the hemorrhage again came on. Two days subsequently to this I determined to try iron alum, and introduced a small crystal of the size of a pea; the bleeding ceased at once. On the following day I examined the patient, finding two or three clots in the vagina which were perfectly dry, and which crumbled between the fingers on rubbing them; I injected warm water and examined the os, which was now nearly free from all granulations. Another piece of iron alum was applied, and there was no recurrence of the discharge. On the fourth day the granular ulceration had thoroughly healed, and the patient was cured. For some time she was very anemic, and required iron tonics; but she soon recovered her strength, and has been well up to this time.

Case II. An abortion happening to Mrs. W., who had given birth to two children previously to this, the youngest being two years old; she was now advanced three months in pregnancy, and awakening one night found herself saturated with blood. I found her in the following state: the napkins and sheets were completely soaked in blood; pulse one hundred and twenty; lips blanched; cheeks pallid. The os uteri was very little dilated, and pains were coming on at long intervals. I applied a crystal of iron alum of the size of a nut to the os; the discharge stopped. Ergot and opium were administered every two hours. On the second day there was no pain and no reappearance of the discharge. The patient slept well during the night; there was no internal hemorrhage; the os was not dilated; pulse ninety-six; ergot was ordered to be continued every two hours. On the third day there was a good deal of bearing-down pain, but no hemorrhage; ergot was ordered every quarter of an hour. Two hours afterward the ovum was expelled complete, and appeared like an old clot; there was no hemorrhage. The patient soon convalesced.

Case III. The next case was one of menorrhagia in a lady, aged forty, the mother of six children, the youngest being four years old. Her last two periods were excessive, lasting seven or eight days, with a slight mucous discharge for some days afterward. I was sent for on the sixth day; she then had a copious discharge of blood. On examining her with the speculum, I found she had endo-cervicitis. I applied the iron alum with perfect success, and prescribed quinine and iron. During the next monthly period she had the same treatmennt on the fourth day. From that time she quite recovered, and six months later was pregnant. She went to the full term, had a natural labor, and gave birth to a daughter. The patient recovered rapidly.

From that time to this, I have used the remedy in all cases of uterine hemorrhage where an immediate styptic was required in accidental, unavoidable, and post-partum, as well as in secondary hemorrhage. I shall briefly quote two or three extreme cases to prove its value.

Case IV. I attended Mrs. J. in a previous labor, when she had a frightful post-partum hemorrhage. I then had to inject liquor ferri perchloridi three times before the bleeding stopped. The second time I attended her, and used every precaution during the labor; the hemorrhage appeared notwithstanding, as soon as the placenta was expelled. I injected the perchloride of iron once, but with no effect; I therefore introduced a good sized crystal of iron alum, which stopped the flow at once. I should have remarked that this patient showed all the symptoms of embolism in her first labor, which placed her in extreme danger for twenty-four hours.

Case V. Another case was that of Mrs. P., who lived four miles distant in the country. The child was born before the messenger started, he bringing the intelligence post-haste that the woman was flooding to death. After a hurried journey, I found the patient quite moribund, pulseless at the wrist, cold and completely blanched. The placenta was expelled, and the bed thoroughly saturated; there even was a pool of blood on the floor under the bed, the blood having percolated through every thing. I applied the iron alum at once, and injected sulphuric ether hypodermically into the arm, repeating this in ten minutes. A quarter of an hour afterward the pulse became perceptible in the large vessels. I gave her brandy and milk every half-hour. She had no further hemorrhage; the binder was applied, and I left the woman, with the caution that her head should not be raised from the pillow. Her convalescence was slow, and it was a long time before she recovered her color.

Case VI. I shall here give a short description of a case of secondary hemorrhage occurring with Mrs. P., who lived ten miles away. I was sent for in her first childbirth. When I arrived the child was born and the placenta delivered. I asked the nurse where the placenta was; she said, "it is buried." I always like to inspect the placenta, thus knowing whether it is all come. The patient seemed to be going on well; no hemorrhage; there was no pain; the pulse was seventy-eight; and the binder was properly applied. On the sixth day, I was sent for in great haste, as the woman was flooding frightfully. On my arrival I found the patient very weak from loss of blood. I applied iron alum, and prescribed quinine and ergot. Three days afterward a small piece of placenta was expelled together with an old clot of blood; the woman gradually recovered.

I have a record of eighty-two cases of uterine hemorrhage where this remedy was applied without a single failure; menorrhagia, ten cases; metrorrhagia, eighteen; abortions, fifteen; accidental hemorrhage, seven; unavoidable hemorrhage, four; post-partum hemorrhage, twenty-two; secondary hemorrhage, six.

In post-partum hemorrhage, it is advisable always to clear the uterus of clots or any portion of placenta before applying the crystal; also, in accidental hemorrhage, when there is detachment of placenta, should the case appear to be one where there is no chance of carrying it to full term, the membranes ought to be punctured, and the iron alum applied in the usual way. There is no fear of any very great hemorrhage coming on afterward; in a slight case the iron alum will stop it; but, if the hemorrhage should recur, it would be advisable to have recourse to puncturing the membranes, and induce labor. By way of comparison, I shall here enumerate most of the local remedies hitherto used in uterine hemorrhage; namely, the tampon, compression, friction, galvanism or electricity, ice, injection of hot and and cold water, cold water applied to the vulva, cold douche on the abdomen, pressure on the abdominal aorta; and last, but not least, the injection of liquor ferri perchloridi. Most of these require apparatus for their application, which may not always be at hand; and, in addition, some time would be taken in their preparation and administration. Furthermore, there is the always present danger of injecting a styptic into the open mouths of the uterine vessels; also cold applications, when the body is already too cold, must be injurious. Now, iron alum does not require any apparatus, or any preparation, as it is already at hand; it will bring on immediate contraction of the uterus, which is the chief aim and object in the treatment of these cases; as remarked before, it does not require to be introduced into the uterus, only into the vagina, close to the os uteri, and there left. The preparation is both cheap and effectual.

TREATMENT OF LUNG TUBERCLE.—In a lecture delivered by Dr. G. A. Heron, of the London Hospital for Diseases of the Chest (Lancet), he said:

The drug treatment of lung tubercle never enables us to say to any patient, "Take this, and you will surely find that your health will improve." Good results in abundance can be quoted as having followed the use of, for instance, cod-liver oil in lung tubercle; but equally good results could be quoted, I believe, where soda and gentian had been the only drugs prescribed. And I have no doubt, judging from the results of my own observations, that precisely the same remark may truly be made concerning the use of arsenic, the hypophosphites, and numerous other drugs which have had ascribed to them much success in the treatment of lung tubercle. It is true that in certain cases improved health results after the use of drugs, but that is not known till after the event; and we can not foretell with certainty that the use of any drug will of necessity be followed by improvement in the health of any consumptive.

I propose now to lay before you, as shortly as I can, the results of practical importance which those experiments have established in connection with our present purpose. I shall quote observations made by Drs. Ernst Schüll and Bernhard

Fischer, in the Imperial Health Office in Berlin, whose chief is Dr. Koch. The object that these two gentlemen had in view was the ascertaining of how perfectly to disinfect the excreta of tuberculous patients. They established these two important facts, among others: (1) That a five-per-cent solution of carbolic acid in water, mixed with an equal bulk of fresh sputum containing a large number of tubercle bacilli, in twenty-four hours destroyed the virulent properties of the sputum. (2) That ten parts of a saturated solution of anilin in water, freshly prepared, mixed with one part of fresh sputum containing a large number of tubercle bacilli, completely sterilized the sputum in twenty-four hours. Drs Schüll and Fischer established these facts by injecting some of the fresh sputum, before its disinfection, into the bodies of animals, and found that tubercular disease was invariably developed as a consequence in the lungs, liver, and spleen; whereas, after disinfection of the sputum in the way just indicated, no tubercular disease followed its injection into the bodies of animals. Besides carbolic acid and anilin, several other substances were experimented with by Drs. Schüll and Fischer, and among them were some which proved more or less efficient in destroying the virulence of tuberculous sputa. Of these absolute alcohol gave the best results, for it was found that by mixing one part of the infected sputum with ten parts of absolute alcohol, sterilization of the sputa was secured. Corrosive sublimate did not yield satisfactory results, for it was found that the animals experimented upon with this substance died of sublimate-poisoning when they were subjected to an injection of equal parts of a mixture of tuberculous sputa and a 1 in 500 solution of perchloride of mercury. So far as our present knowledge helps us we can only use carbolic acid and anilin in a treatment of lung tubercle founded upon these experiments. The choice of a way of using carbolic acid is limited. I selected inhalation of carbolic-acid vapor as the method of administration; and one of my smaller wards in this hospital has been converted into an inhalation-room. In constructing a chamber for inhalation purposes the simplest contrivance has been employed. The window is partly, and the fireplace completely, covered with a screen of coarse cloth in the shape of a roller-towel. These screens dip into a trough, and so are kept constantly wet with a saturated solution of the ordinary commercial variety of carbolic-acid. Near the center of the ward is a gas-stove with a shallow basin upon it containing a quantity of Calvert's No. 4 carbolic acid.

We know very well, from the results of cultivation experiments, that the bacillus of tubercle increases in number with considerable rapidity out of the body, though its exact rate of multiplication is not yet known. We know also, from our observations at the bedside of the consumptive, that the organism forms new colonies with distressing perseverance after it has made its first lodgment in the human lung. When we remember that a mature bacillus contains from two to six spores, and that probably each one of these spores will in its turn become a full-blown organism, and the parent of a numerous progeny; and when, in addition to all that, we call to mind how difficult and how rarely successful is any attempt thoroughly to disinfect or, in Listerian phrase, to "make sweet" a moderately deep wound to which there is easy access from the surface of the body, we can form some estimate of the extreme difficulties that lie before us in our attempts to destroy the growth of the bacillus of tubercle within the lung.

One thing seems clear to me, and that is the absolute necessity of submitting patients night and day, without any intermission, to the action of the vapor of carbolic acid, if we wish to test thoroughly its action in cases of lung tubercle. It must be obvious to every one, after studying the experiments of Schüll and Fischer, and reading Mr. Ansdell's report, that nothing short of strict confinement to the inhalation-room by night and by day and for a long period can be of real use in materially impeding the growth of the bacillus in the lungs. It is upon that condition being distinctly accepted by patients that admissions to the inhalation-room upstairs are granted. Of course certain short absences from the ward must be allowed, the lavatories being at some little distance from it. During even these short absences the patients are required to wear a respirator, through which they inspire air charged with carbolic-acid vapor. Now, I beg you not to misunderstand me in this matter of the respirator. It is with no object of filtering the air or raising its temperature that I have advised the use of the respirator. The sole object that I have in view is to impress upon the patient's mind that he must keep up the supply of carbolic-acid vapor without a moment's intermission. Perhaps I may as well now tell you that no case of carbolism has occurred among the patients in the ward, and it has been used as an inhalation-room since last January. It is almost superfluous to state that the patient's urine has been carefully watched from day to day.

I much regret that the patients who have passed through the inhalation-room are too few in number to warrant any special reference to them at present. Those of you who are interested in their clinical history are welcome to go into the ward and see and examine the cases. A journal containing a detailed report of all the cases hitherto submitted to treatment there, by inhalation, is on the ward table, and is, of course, open to your inspection. You can therefore, as practitioners of medicine accustomed to the study of disease, form your own opinions concerning these cases. For my own part, I will only say that I find in the record of these cases sufficient encouragement to pursue still further this line of treatment; for I can not shut out from my mind the hope that the road to success in treating consumption, should we ever find it, may be found to lead in the direction which seems to be indicated by Koch's researches.

On the Rearing of Hand-fed Infants. — Mr. Edmund Owen, F.R.C.S., of London, recently delivered a lecture on this subject at the International Health Exhibition. The chair was occupied by Dr. Charles West, who, in introducing the lecturer, made an eloquent address upon the sacred duty of mothers suckling their own infants. He severely criticised the system of wet-nursing, by which one infant was robbed of its birthright for the sake of another, whose wealthy and indifferent mother might be shirking her responsibility from mere indolence.

Mr. Owen remarked that probably almost every one would agree with the truth of the general proposition, that for the first half-year of infant life the mother's milk should be the only food for babes; but where a poor woman has to leave her infant in order to earn money for the support of her husband, or where the lady of fashion finds that the claims of society are so strong as to efface the sweet duties of motherhood, the question had to be answered as to the best artificial food. The physiological chemist brought in his answer: Having made an analysis of human milk, he prepared a patent food which, he thought, ought to be even superior to the original article; but his compound was never absolutely fresh, and, when reared on it, infants were apt to grow weak and flabby; most likely it contained some starchy element which found no representative in human milk; he might almost as well put in fine sawdust.

He was apprehensive lest preserved milk should entirely usurp the place of fresh milk in the nursery. At present it was far too widely employed, and he entirely failed to see how it could form a more wholesome diet for infants—as some maintained it did—than the fresh article. He could no more believe this than that the adult would thrive better on tinned American meat than on fresh sirloin. For babies, cow's milk, which should be always fresh, should be mixed with an equal or *even greater bulk* of warm water, in which a lump of white sugar and a pinch of salt had been dissolved; the fresh milk was an excellent antiscorbutic, and was therefore always needed. Often, when he had been assured that cow's milk could not be retained by the infant stomach, he had been able to demonstrate to the contrary by mixing even as much as double the quantity of water with it. In summer lime-water might be added to the mixture.

As regarded feeding-bottles, Mr. Owen said that the old-fashioned long straight one, with the short india-rubber nipple, and with no tube at all, was the best; and he wished that, in their search for the antique, mothers would revert to the ancient feeder. With this the infant could be fed only when the nurse had the bottle in her hand, so that the child's meals would be given at regular intervals and for a definite time, and under close watching. The very worst kind of feeder was that now in general use; he had heard it called by one well competent to form an opinion on the matter "the lazy nurse's bottle." It was not so easily kept clean as the slipper-bottle, and was liable to many and serious abuses. Infants should be fed at regular intervals, and if they vomit after their milk, they should be fed on smaller quantities, given at shorter intervals. As a rule, for the first month the bottle should be given every two hours, gradually increasing the interval to three and eventually to four hours. As time went on, less and less water should be added to the milk. Too often infants were fed simply because they cried. True, the infant has "no language but a cry," but the cry may mean that the stomach is already overloaded. Before the end of the first year infants should be entirely weaned from the bottle; they should then have daily a little undercooked meat pounded into a pulp, to which some gravy and salt have been added. Potato finely mashed and covered with gravy, an egg, or a little milk pudding, may vary the diet. But on no account should they be allowed any wine, beer, tea, or coffee, though they may have cocoa and milk. The meals should be given regularly; children should not be allowed to "pick" at bread and butter, cakes, and sweetmeats in the intervals.

Having criticised unfavorably the absurd fashion of bunching all the little child's clothes around the middle of its body, the lecturer pleaded that here, at any rate, there was great need for a "scheme of redistribution." The body should be evenly covered. Children could not be hardened by cold baths or by any other exposure to cold; only the very fit could survive such severe treatment. Like flowers and fruit, they loved warmth and sunlight; and when he had a sick child under observation he made it one of his first cares to have the cot placed in a sunny part of the room. In England people did not seem to know the value of sunlight; the Italians did, however, and their common saying is to the effect that "where the sun does not go the doctor does." The sun's rays have a destructive influence on suspicious or baneful gases; but to such vapors children should never be exposed. No bath, sink or closet should be allowed near the nursery; many children fell victims to a neglect of this first law of domestic sanitation. Every thing about them should be sweet and fresh, and there should be no carpets nor bed or window-hangings to interfere with the free circulation of the air. On no account should the infant be taken to sleep in its mother's bed; the coroner for Central Middlesex holds a hundred and twenty inquests every year on infants who have thus perished. If the weather be very cold, a warm brick or bottle wrapped in flannel might be tucked in under the clothes of the cot. For insuring appetite, digestion, and sleep, the infant should be taken out of doors each day when the weather is fine; and every day, unless a bitter wind is blowing or it is foggy, the window should be thrown open for a while, as fresh air in the house is an absolute necessity. A well-managed babe should close its eyes as certainly as does a mechanical wax-doll as soon as it is laid down for sleep. The small hours of the night and the unhappy husband need never be disturbed by cradle-songs and lullabys. It was only a home-sick sugar-planter who cried "Rock me to sleep, mother!" and probably if an infant could speak it would never be heard repeating the request.

In conclusion, the lecturer likened his discourse to a badly-made net, in which the irregularly-sized meshes were represented by the many faults of omission and commission. Still, he did not fear the net breaking under the test of practical experience. Indeed, the greater the strain it was thus called upon to bear, the more productive would he consider this his cast. And he was of opinion that if the great Health Exhibition did nothing more than direct public attention to the unsatisfactory environment of hand-fed infants, history would still be fully justified in regarding it as one of the most important national successes of the nineteenth century.

THE HYGIENIC MANAGEMENT OF THE SUMMER DIARRHEA OF INFANTS.—Dr. J. Lewis Smith, Clinical Professor of Diseases of Children, Bellevue Hospital Medical College, New York, writes as follows in the Archives of Pediatrics: One of the most important conferences in pediatrics ever held convened at Salzburg in 1881 for the purpose of considering the diet of infants. Among those who participated in the discussion were men known throughout the world as authorities in children's diseases, such as Demme, Biedert, Gerhardt, Henoch, Steffen, Thomas, and Soltmann. None of the physicians present dissented from the following proposition of the chairman, that "all the advances made in physiology in respect to the digestive organs of children, only go to prove that the mother's milk is the only true material which is quantitively and qualitatively suited to the development of the child, which preserves the physiological functions of the organs of digestion and, under favorable circumstances of growth, unfolds the whole organism in its completeness." All agreed that when the breast-milk fails, animal milk is the best substitute. Henoch expresses the same opinion in his well-known treatise on Diseases of Children as follows: "Cow's milk is the best substitute for mother's milk during the entire period of infancy. I consider the administration of other substances advisable only when good cow's milk can not be obtained, or when it gives rise to constant vomiting and diarrhea."

The many infants' foods contained in the shops were considered by the Conference, and, in the words of the chairman, "Now and evermore it is unanimously agreed that these preparations can in no way be substituted for mother's milk; and, as exclusive food during the first year, are to be entirely and completely rejected." But, unfortunately, we soon learn by experience that animal milk, although it is the best of all substitutes for human milk, is, especially as dispensed in cities, faulty. It is digested with difficulty by young infants, and is apt to cause in them diarrhea and intestinal catarrh. Therefore, in the hot months, its use is very prone to act as one of the dietetic causes of the summer diarrhea in infants exclusively fed upon it, unless it be specially prepared so as to more closely resemble human milk. The frequent unsatisfactory results of its use have led to the preparation of the many proprietary substitutes for human milk which the shops contain, and which have been so summarily discarded by the German Conference.

Of the many foods intended for the use of infants all, except such as consist largely or wholly of cow's milk, differ widely from human milk in their composition; and although some of them, as the Liebig preparations, in which starch is converted into glucose by the action of the diastase of malt, may aid nutrition and be useful as adjuncts to milk, physicians of experience and close observation will, I think, agree with the German Conference, that when breast-milk fails, or is insufficient, our main reliance for the successful nutrition of the infant must be on animal milk. Nestle's food, which consists of wheat-flour, the yolk of egg, condensed milk, and sugar, and which has been so largely used in this country and in Europe, is probably beneficial mainly from the large amount of Swiss condensed milk which it contains. Although the preference is to be given to animal milk over any other kind of food as a substitute for human milk, yet even when obtained fresh and from the best dairies, and properly diluted, it is very apt to disagree with infants under the age of one year, producing indigestion and diarrhea. The close resemblance in chemical character of cow's, ass's, and goat's milk with human milk would lead us to expect that either one would be a good substitute for the latter. The fact that the milk of these animals is apt to cause indigestion and intestinal catarrh, especially in the hot months when the digestive function of the infant is enfeebled from the heat, must be due to the quality rather than quantity of its constituents. The difference in quality of the casein of human and animal milk is well known, since that of human milk coagulates in the stomach in flakes, and that of animal milk in firm and large masses. The German Conference saw at once the importance of the problem which confronted them, *i. e.*, how to modify cow's milk so that it bears the closest possible resemblance to human milk. They even discussed the difference of the milk of different breeds of cows, and the proper feeding and care of cows ; but the most important suggestion made, and one which has already produced good results in this country and in Europe, and promises to be instrumental in saving the lives of many infants, who by the old method of feeding would inevitably perish, was made by Prof. Pfeiffer, of Weisbaden. I allude to the peptonizing of milk. The pancreatic secretion digests milk that is rendered alkaline, at a temperature between 100° and 150° F. Milk thus treated becomes, in from twenty minutes to one hour, thinner, resembling human milk in appearance, and if the peptonizing be continued beyond a certain point and is more complete, its taste is decidedly bitter. The process should be watched and the peptonizing suspended as soon as the bitterness becomes appreciable, for although more advanced peptonizing so changes the milk that it is more easily digested by the infant than when the peptonizing is partial, yet the bitterness which is imparted to it renders it very disagreeable as a dietetic preparation. Milk thus prepared closely resembles human milk in appearance, and its casein is so digested that it is either not precipitated by acids, or is precipitated, like that of human milk, in flakes. By this process a digested or an easily digested casein is produced instead of the casein of ordinary cow's milk, which produces large and firm masses in the stomach, masses which the digestive ferments penetrate with such difficulty that they cause indigestion, and appear in the stools as coagula of greater or less size. Pfeiffer pointed out that when peptonized milk is employed "the feces showed absolutely no trace of the white cheesiness." Milk thus prepared quickly spoils, and it is necessary to peptonize it in small quantities and often during the twenty-four hours.

In New York city, during the last year, peptonized milk has been employed largely as recommended by Pfeiffer, and with such results as to encourage its further use. It is now used in the New York Foundling Asylum and the New York Infant Asylum. Five grains of extractum pancreatis (Fairchild & Co.'s) and ten grains of sodium bicarbonate are added to a gill of warm water. This is mixed with one pint of warm milk, and the mixture, in some convenient vessel, is placed in water kept at a temperature of 100° F. for one hour, or less time if it begin to be bitter, when it is placed upon ice to prevent further digestion. With some specimens of milk, especially at a temperature of 115° or 120° F., a half hour, or even less, is sufficient. This artificial digestion is arrested either by boiling the peptonized milk, which destroys the ferment, or by reducing its temperature to near the freezing-point, which renders it latent and inactive, but does not destroy it.

I need not add that placing the peptonized milk on ice is preferable to boiling it, since we wish the ferment to continue to act in the stomach of the infant. In the present state of our knowledge of infant feeding, therefore, we can recommend no better substitute for human milk than peptonized cow's milk.

Milk from healthy, properly-fed cows may be prepared without peptonizing so as to agree with many infants, except in the warmest weather, but is obviously less easily digested than peptonized milk. It should be diluted as follows, with water boiled so as to free it from germs: In the first week after birth, one fourth milk, with the addition of a little sugar. The milk should be gradually increased so that it is one third by the end of the fourth week; one half by the end of the third month; and two thirds to three fourths by the end of the sixth month. After the sixth month it is still proper to add one fourth water, but pure milk may be given. Water increases the urination. Before peptonizing was resorted to, which, as we have seen, digests the casein to a great extent, and changes that which is not digested so that it coagulates in flakes in the stomach like breast-milk, it was customary to use a thin gruel of barley or oatmeal in place of the water used for diluting milk; one heaped teaspoonful of barley-flour to ten tablespoonfuls of water make a gruel of proper consistence. A little farinaceous substance added to the milk, by mechanically separating the particles of casein, tend to prevent their coagulation in large and firm masses. This was the theory which explained the beneficial action of the admixture. If for any reason peptonized milk be not employed, milk prepared in the way I have mentioned, by admixture with a farinaceous substance, is probably the next best substitute for human milk.

It is very important to determine when and how farinaceous food shall be given in this disease. It is well known that infants, under the age of three months, digest starch with difficulty and only in small quantities, since the salivary and pancreatic glands, which secrete the ferments which digest starch, are almost rudimentary at that age. But the artificial digestion of starch is easily accomplished. Among the last labors of the renowned chemist, Baron Liebig, was the preparation of a food for infants, in which the starch is digested, transformed into grape-sugar, and thus infants at any age, who are fed with it, are relieved of the burden of digesting it. The Baron led the way, which has been so successfully followed since, in the artificial digestion of foods. A considerable part of the starch in wheat-flour is converted into grape-sugar by the prolonged action of heat. I frequently recommend that from three to five pounds of wheat-flour be packed dry in a firm muslin bag, so as to form a ball, placed in water sufficient to cover it constantly, and kept over the fire three or four days. During the nights the fire may go out for a few hours. At the expiration of this time, the external part, which is wet, being peeled off, the remainder resembles a lump of yellowish chalk. The flour grated from it gives a decided reaction of sugar by Fehling's test. Starch is also quickly transformed into glucose by the action of the diastase of malt, which indeed Liebig employed. If to a gruel of barley-flour, oatmeal, or other farinaceous substance, when hot, a little of a good preparation of extract of malt, as that prepared by Trommer & Co., at Fremont, Ohio, which acts promptly, or by Reed & Carnrick, be added, it becomes thinner from the conversion of the starch into sugar. Farinaceous substances thus prepared may be used with peptonized or other milk.

Of the foods contained in the shops, which have been most employed, and which have apparently been useful in certain cases, I may mention those which have been prepared according to Liebig's formula, of which there are several, and Nestle's lacteous farina. In the use of those foods which contain no milk, as Ridge's food, imperial granum, etc., it is recommended that milk be added ; while for such as contain condensed milk, as Nestle's, and the Anglo-Swiss milk-food, only water should be employed. The Anglo-Swiss food contains about sixty per cent condensed milk and about twenty per cent each of oatmeal and Russian wheat-flour. It gives an acid reaction, unlike Nestle's, which is alkaline. When Biedert's *creme conserve* was announced, great expectations were awakened from the fact that the inventor is an authority in pediatrics, but unfortunately they have not been realized in this country. Much of Biedert's conserve when it reaches us is spoiled, and the directions for its use are too complicated for ordinary families, since a different mixture is required for each month. I have prescribed this food, but, with Henoch, "could not convince myself that it is more efficacious than cow's milk."

Condensed milk is largely used in the feeding of infants. The milk is condensed under vacuum to one third to one fifth its volume, heated to 100° C. (212° F.), to kill any fungus which it contains ; and thirty-eight to forty per cent of cane sugar is added to preserve it in cans. In the first month one part of the milk should be added to sixteen of water, and the proportion of water should be gradually reduced as the infant grows older. The large amount of sugar which condensed milk preserved in cans contains renders it unsuitable in the dietetic rôle of the summer diarrhea of infants. The sugar is apt to produce acid fermentation, and diarrhea in hot weather. Borden's condensed milk, fresh and dispensed from the wagons, contains, I am informed by the manager, no cane-sugar or other foreign substance, and on this account is to be preferred. It is cow's milk of good quality, from which seventy-five to seventy-nine per cent of the water has been removed under vacuum. The sole advantage which it possesses, and it is an important one, is that it resists fermentation longer than the ordinary milk.

To select the best food for the infant from this considerable number of dietetic preparations is one of the most important duties of the physician. If called to an infant unfortunately deprived of wholesome breast-milk, and suffering in consequence from indigestion and diarrhea, what diet shall we recommend? My recommendation would be as follows: Use cow's milk of the best possible quality, and peptonized in the manner stated above, and peptonized in small quantity at a time, as a pint, or, better, half a pint. This may be the sole food till the age of five or six months. Farinaceous food can be allowed in addition even to young infants, if a considerable part of its starch be converted into glucose. My preference as regards farinaceous food is for the wheat-flour prepared by long boiling. For infants under the age of six months, one tablespoonful of the flour thus prepared should be mixed with twelve tablespoonfuls of water, and heated. To one teacupful of this, one half-teaspoonful of the extract of malt (as Trommer's extract prepared for children) should be added. The diastase of the malt quickly converts a considerable part of the starch that has not already been converted by the boiling into glucose. The glucose renders it sweet and palatable, and a little salt should be added to it. It does not seem to mix well with peptonized milk, and can be given separately through a nursing-bottle. I usually make it the vehicle for the brandy or whisky which infants with diarrhea usually require. It is also a good vehicle for albumen. If the digestion of the infant be feeble, as in atrophic cases, and it seems to require more nutriment, the white of the fresh egg mixed with the food aids in supplying the deficiency, and it is easily digested even by atrophic infants.

Beef, mutton, or chicken tea should not be employed, at least as it is ordinarily made, since it is too laxative. Occasionally for the older infants the expressed juice of beef, raw scraped beef, or beef-tea prepared by adding half a pound of lean beef finely minced to one pint of cold water, allow it to stand cold half an hour, and then warm it to a temperature not exceeding 110° for another half hour. By this process the albumen is preserved. Salt should be added to it, and I am in the habit of adding to it also about seven drops of dilute muriatic acid to facilitate its digestion. It is chiefly for infants over the age of ten months that the meat-juices are proper.

But since one of the two important factors in producing the summer diarrhea of infants is foul air, it is obvious that measures should be employed to render the atmosphere in which the infant lives as free as possible from noxious effluvia. Cleanliness of the person, of the bedding, and of the house in which the patient resides, the prompt removal of all refuse animal or vegetable matter, whether within or around the premises, and allowing the infant to remain a considerable part of the day in shaded localities where the air is pure, as in the parks or suburbs of the city, are important measures. In New York great benefit has resulted from the floating hospital, which every second day during the heated term carries a thousand sick children from the stifling air of the tenement houses down the bay and out to the fresh air of the ocean. But it is difficult to obtain an atmosphere that is entirely pure in a large city with its many sources of insalubrity, and all physicians of experience agree in the propriety of sending infants, affected with the summer diarrhea, to localities in the country which are free from malaria and sparsely inhabited, in order that they may obtain the benefits of a purer air. Many are the instances each summer in New York City of infants removed to the country with intestinal inflammation, with features haggard and shrunken, with limbs shriveled and skin lying in folds, too weak to raise or at least hold their heads from the pillow, vomiting nearly all the nutriment taken, with stools frequent and thin, resulting in great part from molecular disintegration of the tissues—presenting, indeed, an appearance seldom observed in any other disease except in the last stages of phthisis—and returning in late autumn with the cheerfulness, vigor, and rotundity of health. The localities usually preferred by the physicians of this city are the elevated portions of New Jersey and Eastern Pennsylvania, the Highlands of the Hudson, the central and northern parts of New York State, and Northern New England. Taken to a salubrious locality and properly fed, the infant soon begins to improve, if the disease be still recent, unless it be exceptionally severe. If it be a protracted case improvement may not be immediate, but it will usually appear in the course of a week.

An infant weakened and wasted by the summer diarrhea, removed to a cool locality in the country, should be warmly dressed, and kept indoors when the heavy night dew is falling. Patients sometimes become worse from injudicious exposure of this kind, the intestinal catarrh from which they are suffering being aggravated by taking cold, and perhaps rendered dysenteric.

Sometimes parents, not noticing the immediate improvement which they had been led to expect, return to the city without giving the country a fair trial, and the life of the infant is then, as a rule, sacrificed. Returned to the foul air of the city while the weather is still warm, it sinks rapidly from an aggravation of the malady. Occasionally the change from one rural locality to another, like the change from one wet-nurse to another, has a salutary effect. The infant, although it has recovered, should not be brought back while the weather is still warm. One attack of the disease does not diminish, but increases, the liability to a second seizure.

TREATMENT OF PUERPERAL FEVER BY COLD BATHS.—Professor Vincent (Lyons) said (1) that the administration of cold baths was practicable with the recently delivered attacked with puerperal fever; (2) that cold baths were free from danger in the puerperal state; (3) they had a certain and quick antifebrile effect in the sequelæ of delivery; (4) recovery from puerperal fever was the rule with treatment by baths of proper temperature and methodically administered; (5) cold baths were indicated in all high temperature forms of after-complications of childbirth, the very acute peritonitis excepted. The indication for cold baths did not arise except where the fever was kept up, without notable morning remission, to about 40° C., when the powerlessness of quinine and diffusible stimulants in full doses had been shown, and when, in fine, the lochia was fetid and intra-uterine injections had been carefully tried without bringing a fall in the febrile condition. (6) Cold baths should be administered at a temperature varying from 28° to 18° C.; according to the fall secured by the first bath given at 28° or 30°, the temperature of the subsequent baths should be reduced. (The rule was, to get with a cold or tepid bath a fall of from one to two degrees of the patient's temperature.) The method used in typhoid fever, treated by cold baths after the system of Dr. Brand, should be followed, with modifications. (7) The cold baths were repeated every three hours until the temperature had fallen to 38°, and stayed there, with only ascending oscillations of some tenths in the evening. (8) When baths of 18° or 20° C., repeated every three hours, night and day, did not bring about a notable reduction of temperature, a large ice-bag should be placed, in the intervals of the baths, on the abdomen of the patient. (9) Along with cold baths and ice-bags, spirits and tonics should be freely administered; the patients should be fed with liquid or semi-liquid foods, having much nutriment in a small bulk—soups, beef-tea, American broth, milk, etc. (British Medical Journal.)

SYLLABUS OF THE TREATMENT OF CRANIAL FRACTURES.—The Polyclinic contains the following from that high surgical authority, Dr. John B. Roberts: In the June number of The Polyclinic I expressed myself in favor of a more frequent adoption of trephining in cranial fractures. In the present paper I shall give a tabulated statement of what is, in my judgment, the proper treatment for each variety of such fractures. I admit that the line of treatment advocated is more heroic than that generally taught, but it has been accepted only after careful consideration of the reasoning of those who hold the opposite opinion to my own. Every case must be individually studied, and the patient's chances of death, of life with subsequent epilepsy or insanity, or of return to perfect health, carefully weighed; but for a working rule to guide the student and practitioner, I think experience will show that the indications given in the table are correct. Trephining, properly performed, is in itself so free of danger that in a doubtful case the patient had better be trephined than allowed to run the risk of death, epilepsy or insanity.

The Syllabus of the Treatment of Fractures of the Cranium is as follows:

Simple Fissured Fractures. (1) No evident depression, no brain symptoms. No operation. (2) No evident depression, with brain symptoms. Incise scalp and trephine. (3) With evident depression, no brain symptoms. Incise scalp and possibly trephine. (4) With evident depression, with brain symptoms. Incise scalp and trephine.

Simple Comminuted Fractures. (5) No evident depression, no brain symptoms. Incise scalp and probably trephine. (6) No evident depression, with brain symptoms. Incise scalp and trephine. (7) With evident depression, no brain symptoms. Incise scalp and trephine. (8) With evident depression, with brain symptoms. Incise scalp and trephine.

Compound Fissured Fractures. (9) No evident depression, no brain symptoms. No operation, but treat wound. (10) No evident depression, with brain symptoms. Trephine. (11) With evident depression, no brain symptoms. Possibly trephine. (12) With evident depression, with brain symptoms. Trephine.

Compound Comminuted Fractures. (13) No evident depression, no brain symptoms. Probably trephine. (14) No evident depression, with brain symptoms. Trephine. (15) With evident depression, no brain symptoms. Trephine. (16) With evident depression, with brain symptoms. Trephine.

Punctured and Gunshot Fractures. (17) In all cases and under all circumstances. Trephine.

In classes 3 and 11 I should be inclined to trephine if the depression was marked, or the fissures sufficiently multiple to approach the character of a comminuted fracture.

In classes 5 and 13 I should trephine, unless the comminution was found to be inconsiderable.

The operation, when decided upon, should be performed at once, or certainly not delayed more than a few hours.

All cases, whether trephined or not, should be treated as cases of incipient inflammation of the brain.

ALBUMINURIA.—The principles which should govern the treatment of this disease are thus announced by Dr. George Johnson, in a paper opening the discussion of the subject before the recent meeting of the British Medical Association:

Principles of Treatment. One of the main principles in the treatment of albuminuria is to lessen, as far as possible, the work of the kidneys, and to obtain for them physiological rest. Among the most efficient means for obtaining this object, are rest in bed in all acute and severe cases, the promotion of the secretions of the skin and bowels, and, above all, a scanty diet, with entire abstinence from alcoholic stimulants. An exclusive milk-diet is often most successful in the treatment of recent acute cases; the plan being to give half a pint of milk to an adult about every two hours, and to continue this diet until the urine has entirely ceased to be albuminous. It will sometimes be found that, when the albumen has disappeared while milk alone is being taken, a small meal of solid food, fish, or poultry, or mutton, excites a reappearance of albumen. The patient and the friends often look upon milk-diet as allied to starvation, and frequent requests are made for some addition to the dietary. In reply to these complaints and petitions, I am in the habit of quoting the case of a gentleman, a patient of my own, who, in 1873, at the age of 55, being seriously ill with disease of the kidney, the result of too generous living, was placed upon an exclusive milk-diet, which he continued uninterruptedly for a period of nearly five years, never taking even a biscuit or a piece of bread, except when he was traveling and could not obtain milk. He lived in the country and kept his own Alderney cows, which gave milk so rich in cream that he found it necessary to have the milk skimmed in order to obviate his tendency to excessive obesity. His usual allowance was a gallon of skimmilk daily. During the fifth year of an exclusive milk diet he declared that he never felt better in his life; he was cheerful, slept well, and, at the age of sixty, was capable of taking a considerable amount of active exercise. After this he gradually added to his dietary by taking soup or beef tea and the yolk of an egg for breakfast. In 1879 he took meat once a day. Since then he has gradually returned to ordinary diet, and takes a glass or two of sherry a day. For six or seven years he had abstained entirely from alcoholic liquors. I last heard from him in October, 1882, when he reported that, with the exception of some soreness of the tongue and lips, he was in good health. He had learnt to test his urine, and found sometimes no albumen—never more than a trace.

ACUTE MANIA TREATED WITH HYOSCYAMIN.—Dr. C. Theodore Ewart, of Salisbury, England, reports in the London Lancet a number of cases of acute mania treated by hyoscyamin, and concludes as follows:

It is, I think, the better plan to give a large dose at once than to administer smaller ones at intervals; for in the cases which are most benefited by this drug the difficulty is to get the patient to take more than one dose, and to frequently disturb only tends to make his excitement greater. There is no danger in three-quarter-grain doses, nor is nausea or sickness produced. The pulse at first is very much quickened and stronger, and then gradually gets slower and loses strength. The face is flushed and the pupils greatly dilated by its stimulating action on the peripheral ends of the sympathetic. The breathing is in a few cases stertorous, but in the majority quiet. On waking, spectral illusions are apt to be present. When given in small doses the sleep procured is very restless and disturbed.

The conclusion I draw is, that hyoscyamin is undoubtedly of great service in those cases of mania where the patient is violent and can not be restrained. It is certain in its action, quieting the patient within a quarter of an hour after administration through its effect on the nervous system. The sleep produced is very deep, and the muscular power greatly weakened by its direct paralyzing action on the spinal cord. Whether this drug has any curative effect or not it would be difficult to say; but I imagine it is chiefly through the complete rest produced that its beneficial action is seen. There is no doubt that lengthened sleep in cases of acute mania does good, and the longer a patient continues in an acutely excited state the greater is the danger of permanent mental injury. After repose the patient awakes refreshed, and with greater strength to withstand mental excitement. An objection to the use of hyoscyamin is that it is so very expensive; I am therefore trying the far cheaper sulphate of atropia.

BROMIDE OF AMMONIUM.—This salt is comparatively little used except in association with the other bromides and with hydrobromic acid, and modern experience seems to indicate that it is perhaps not less used than formerly, but that in the increasing use of bromides this does not increase as rapidly as the potassium salt. The taste is much more disagreeable than that of the potassium salt, and becomes more disagreeable by prolonged use, and is more irritant and less acceptable to the stomach; in common with salines in general, it is best given in iced water. The dose is that quantity which will yield the desired degree of bromine effect. In some persons this may be ten grains three times a day, and in others fifty grains. For its full effect bromism must be induced, and the dose be then diminished so as to fall just short of that. For such use about twenty grains three times a day will be about the proper dose to begin with. Its principal use is in the treatment of epilepsy, but it is probable that the potassium salt is better adapted to this purpose.

The writer has treated successfully several cases of confirmed epilepsy by the potassium salt, but has had no personal experience with the ammonia salt, simply from having seen no indication for it in the presence of the other.

The prescription so commonly used in epilepsy, which originated with Brown-Sequard, contains both the ammonia and potassium salts, but it has not been proved to have any advantage over a simple solution of the potassium salt, while for prolonged use it has been said to disturb the stomach more.

In the prolonged use of any of the bromides there is a considerable advantage in adding a moderate proportion of hydrobromic acid, say five to ten minims in each dose, and continuing the addition for a month or so at a time, but returning to the simple solution from time to time. (Dr. Squibb.)

OPERATIVE OPENING OF PULMONARY CAVITIES.—Dr. E. Bull (Christiana), in a paper on this subject, laid down the following propositions: (1) Abscesses of the lung, which can be diagnosed with certainty, and are so situated that they can be opened through the chest-wall, should be treated in the same way as pleural empyema. (2) The condition is the same with regard to limited gangrene of the lung. If several gangrenous foci exist, each one must be treated separately. (3) Echinococci and (4) foreign bodies in the lung are to be treated in a similar manner. (5) In bronchiectasis the formation of a pulmonary fistula is indicated only when the accumulation of stagnant matter in large cavities essentially contributes to the deterioration of the patient's condition. (6) In rare cases of tuberculosis, where a large cavity is the predominating condition, the cavity may be laid open with a view of improving the condition of the patient. (7) The operative puncture of a pulmonary fistula is justifiable as a palliative measure. (8) In cases where diagnosis can not be arrived at, exploratory puncture is certainly of much value; positive as well as negative results may be derived from it. (9) Adhesion of the layers of the pleura ought not to be insisted on as an absolutely necessary preliminary to the opening of pulmonary cavities. (10) Amyloid degeneration is not an absolute contra-indication to a palliative operation. (11) The use of the thermo-cautery is to be recommended both for the opening of cavities and for the destruction of diseased portions of lung-tissue. (British Medical Journal.)

THE EARLY PERFORMANCE OF OVARIOTOMY.—Mr. Knowsley Thornton (London) read a paper on this subject. He first considered whether it was ever right to interfere with an ovarian tumor by tapping or by aspiration. Spencer Wells, Keith, and Thomas were in favor of tapping; and many other leading ovariotomists encouraged it. He gave quotations from Gross, Emmet, and Lawson Tait against the practice; and referred to the doubtful advantages claimed for this proceeding compared with its dangers and its immediate and remote mortality. He said that exploratory incision was far safer and better in doubtful cases. Tapping should be condemned except in some very rare cases. He would always remove an ovarian tumor as soon as it was large enough to be abdominal and slightly stretch the parietes. There were objections to operating earlier except in special cases. The danger lay in delay. Pathological changes in the cysts might lead to the escape of their contents, and to the formation of adhesions; or the pedicle might become twisted. He adduced illustrations of the dangers of delay drawn from over four hundred ovariotomies he had performed, including forty cases in which ovarian fluid was free in the peritoneum, and thirty-four cases of twisted pedicle. He then summed up by considering the following questions: (1) Is tapping ovarian or parovarian cysts, or cysts of the broad ligament ever justifiable; and if so, what conditions justify it? (2) Can any fairly general and defined rule be laid down as to the proper time at which to perform ovariotomy; and if so, what conditions justify an earlier or later operation? He concluded by appealing to the profession to still further improve the brilliant results of ovariotomy by condemning tapping and supporting early ovariotomy. (British Medical Journal.)

Notes and Queries.

Editor American Practitioner:

MURIATE OF COCAINE AS A LOCAL ANESTHETIC.—I hasten to make inquiries of the profession through the American Practitioner if they have had any experience with the muriate of cocaine as a local anesthetic. Tuesday, I read, in a letter written by Dr. Noyes to the New York Medical Record, of the wonderful effect in this respect, displayed by this drug when used topically to the eye. I have been using it internally for some weeks for asthenopic or painful and weak eyes. Its effect therapeutically is a nerve stimulant and food. It is the active principle of cocoa. Wednesday morning last I had a case of convergent squint, in the person of a nervous young lady from Texas. On the upper lid of the right eye, that is the eye to be operated upon, was a painful stye. I procured of Mr. J. A. Flexner a two-per-cent solution of the drug, manufactured by Merck, of Darmstadt. I put two drops of this in my patient's eye, and in ten minutes repeated it. In about twenty-five minutes from the first application I commenced my operation. She did not flinch. I believe she could have held the lids open without the speculum. She said it did not hurt her a particle. The eye felt dead to her as if it would fall out of its socket. Dr. Noyes stated that the drug had no effect upon the pupil. This dilated my patient's pupil to the fullest extent in a few minutes. The bottle was clean, and I used one of four new droppers just purchased. I do not know whether accommodation was affected or not. She reported to me this (Thursday) morning, about twenty-six hours after the operation, with the pupil normal in size. It is true this is but one case, yet it is of great interest. I report it with the hope of extending its use, and thus gather many cases. Within the next month I have engaged several cataract extractions, and iridectomies, and I expect to give muriate of cocaine a thorough trial.

It seems to me to open a wide field for experimentation. In neuralgias, etc., if it will do what we now claim for it, it will be to ophthalmic surgery more than either chloroform or ether.

W. CHEATHAM.

LOUISVILLE, KY., October 16, 1884.

Editor American Practitioner:

TYPHO-MALARIAL FEVER.—We are having some cases here of what is known as typho-malarial fever; a disease, as you no doubt know, which differs very much from the old type of typhoid fever. Of this, the old type, I have not seen a well-marked case in several years; I mean such as prevailed twenty years ago.

The disease, as we have it now, commences like remittent fever, soon becoming continued. The tongue is generally large, not red and pointed; the pulse fuller than the typhoid fever, the bowels less tympanitic, and generally, also, less tendency to diarrhea. The treatment seems to be not so well established as for typhoid fever. Under our present mode of treatment here, at least, it is more stubborn, and continues longer than typhoid fever properly so-called. I understand that there is much typho-malarial fever in your city. I would be glad if you could find time to give me, in detail if possible, the treatment which has been found most satisfactory in the management of the disease.

I notice in the medical journals various modes of treatment set forth, but each writer has his own special method, hardly any two alike, which, by the way, rather inclines me to believe that there is no well-defined mode of treatment. I think I have observed that veratrum viride is not of much service in this variety of fever, and that calomel is better borne than in the genuine typhoid fever; while quinine exercises but little control over its course unless it be given in the beginning of the disease.

I think I have, on more than one occasion, aborted an attack by quinine when given in large doses in the early stage.

GEO. Y. WOODWARD.

LOUISVILLE, MISS., September 29, 1884.

Our reply to the foregoing letter is contained in the following words of Prof. Roberts Bartholow:

TYPHO-MALARIAL FEVER.—In a paper read by Dr. Woodward before the International Congress at Philadelphia, in 1876, he said: "Is typho-malarial fever a special type of fever?—and I reply, unhesitatingly, that it is not. It appears to be probable that when the typhoid germ begins its development in the body, the phenomena caused by malarial infection, if it exists, subside. I have held that the only modifications in the symptoms which occur are the changes in the thermal line, and the more pronounced exacerbations and remissions the greater excursions of the temperature. I am by no means sure that this opinion is correct. The source of the error is so obvious, and mistake is so easily made, that it can hardly be doubted it often occurs.

"If the malarial poison remains in abeyance during the predominance of the typhoid action, there comes a time when it asserts itself. After the typhoid infection has spent its force, there occurs an intermittent, which may greatly prolong the convalescence if not recognized and effectively treated. In my experience, this intermittent succeeds to the typhoid in all cases in which a really active condition of the malarial poison exists. In the absence of such manifestation, we may well doubt that a malarial complication enters into the morbid complexus. Where the patient is simply affected by that which is styled 'chronic malarial poisoning,' the influence is insufficient to modify the typhoid process to an appreciable extent. If, however, the malarial infection is active, during the sway of the typhoid fever, it is either overpowered, or, at most, merely increases the daily thermometric range; but as the typhoid process subsides, then the malarial comes into play, and we have a convalescence interrupted or protracted by an intermittent or remittent fever. Often, indeed, have I witnessed these phenomena." *

THE DEBT OF THE MEDICAL PROFESSION TO THE SCIENTIFIC INVESTIGATOR AND SPECIALIST.—Dr. John Crowell, of Haverhill, at the annual dinner of the Massachusetts Medical Society, spoke thus pleasantly to his text:

Mr. Chairman, an eccentric divine once said to his audience, "My hearers, there is a great deal of ordinary work to be done in this world, and, thank the Lord, there are a great many ordinary people to do it."

As one of the ordinary workers, I wish to say a word in behalf of this great majority, and express thanks to these *extraordinary* workers who do so much for us in the way of patient research and investigation.

I suppose we are all of us investigators in a small way. Joe Gargery said he was "oncommon fond of reading." Nothing pleased him more than to take a book or a newspaper, and sit down to a quiet reading. "Why, Pip," exclaimed Joe, "when you *do* come to a J and an O, and say at last, 'Here is a J O, Joe,' how interesting reading is!" And still, Mr. Chairman, we should be thankful that we do not have to enter the lists and fight the dreadful theories of germs and protoplasm and spontaneous generations that claim the attention of the profound scientist. We make free use of the results of these investigations, and are rich in the possession of treasures that come to us without the tedious process of exploration.

I do n't suppose there is much danger of our falling into the delusion of poor old Mr. Casaubon, in "Middlemarch," who, with his patient wife, was buried among the musty manuscripts of the Vatican Library, investigating his pet theories, where he was disturbed and awakened by his young nephew, fresh and bright from Germany: "What are you doing here, uncle?" "Hard at work investigating," was the reply. "Why, my dear old uncle," said the nephew, "do n't you know that these moldy old manuscripts have long ago been translated by German scholars, and their treasures unfolded to the world?"

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*Should our correspondent desire the very latest, and, we may add, the most practical and clearly defined views on this long vexed question, we refer him to Loomis's Practical Medicine, just issued by Wm. Wood & Co.

The scientists of to-day may be divided into two classes—first, those who teach that the most profound truth, both of biology and chemistry, is that life is the result of the aggregation of matter; and, second, those who hold that there is a principle, called *vital,* which exists within the protoplasm and gives it life. Without this principle, the protoplasm is dead, and, with it, the protoplasm is alive. These two phases of evolution occupy the thought and contribute to the discussions of learned bodies at home and abroad.

I do n't suppose, Mr. Chairman, that we shall all live to see these profound questions absolutely settled to universal satisfaction; but we can admire the scholarship that furnishes us with so much suggestion and so much interesting speculation.

The brilliant experiments of Lister and the introduction of the antiseptic method are great contributions to surgery. But this method has been sharply questioned; and recent experiments have shown that the Listerian precautions do not always suffice to keep out or to destroy the bacteria from surgical wounds.

How long and sharp and brilliant was the discussion between the German Liebig and the French Pasteur concerning acetic fermentation! And how vigorously did Pasteur measure lances with Pouchette on the great subject of spontaneous generation, and how persistent were the experiments of Pasteur to show admiring students the fallacy of his great competitor!

We must pay our respects to the specialist who deals with the more subtle forms of disease, and is able to treat obscure symptoms with intelligent and skillful results. This special practice forms an epoch in the history of medicine; and a noble army of enthusiastic young workers is found in all our large cities whose services are often of great value to us whose attention is given to the more general forms of disease. In this respect our profession has made effective advance in the study of pathological science; and the diagnosis of obscure diseases is one of the triumphs of the healing art. We also owe a debt of gratitude to the specialist for curing us of a certain kind of false modesty in charging professional fees. We country doctors were plodding along, in the old-fashioned way of small charges and long credits, after the fashion of this old bill which I show you, yellow with age, which belonged to one of my professional ancestors. On this bill we find a charge for a visit and medicine to Betsey, twenty-five cents, and visit, call, and medicine to baby, forty cents. Now, these charges became a sort of standard for those who came after this worthy old doctor, until our metropolitan brethren came to the rescue, who received the fee of fifty or a hundred dollars for a consultation with such a graceful nonchalance as to inspire us with great moral courage; so that now we venture to charge two dollars a visit, and from three to five dollars for a consultation.

DR. YANDELL'S LIBRARY.—The fine medical library of the late Dr. L. P. Yandell will be privately sold during the month of November. Purchasers can buy any single book not belonging to a series of volumes. These of course will be sold in sets. The books have been appraised at very liberal figures, carefully classified so as to afford no trouble in inspection, and will be sold at a bargain for cash. Dr. Yandell was well known as a lover of good books, and his collection will be found to contain, with the regular standard works, some rare and valuable specimens of medical literature. Among these may be mentioned certain quaint old volumes purchased by his father from the great library of the eminent Prof. Charles Caldwell.

TO PREVENT SORE THROAT.—A gargle made of strong black tea, and used cold, night and morning, is now the fashionable preventive in London against falling a victim to sore throat during the cold winds of spring, and similar "cold spells" at other times of the year.

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The American Practitioner.

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> Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Communications.

FEMALE PHARMACISTS.*

BY D. W. YANDELL, M. D.

STUDENTS OF THE LOUISVILLE SCHOOL OF PHARMACY FOR WOMEN: I am indebted to my friend, Mr. Theodore Harris, for the pleasure of being here this evening. You probably know Mr. Harris simply as one of the trustees of this institution. There are those of us who know him as one of the founders of the college, and one whose energy and enlightened foresight have contributed very largely to its success.

When Mr. Harris asked me to come and say a few words to you on this occasion I accepted the honor with many misgivings. For, much as I speak in public, my audiences hitherto have been composed exclusively of medical men, and the subjects on which I have spoken have been strictly medical subjects. And while it would not be true if I said this was the first time I ever addressed any of your sex, it is entirely true that this is my maiden effort at addressing maidens in mass. It may serve to relieve you of any uneasiness that otherwise might arise in your minds at the thought of being addressed by one who, though so old, is a mere tyro at the business, to say that I shall ask your ear but for a few moments. I suggested to Mr. Harris that he could readily find in either of the other two learned professions some one who could speak much more fittingly to you than I can. But "No," he said, "even the pundits in the law in Kentucky are not in very good order just now; and when I have bethought me even of the least disputatious of the divinity doctors, I fear they are too strait-laced as to woman's sphere and duties, and if one were given the opportunity he would probably quote only those texts of Scripture which inculcate the inferiority of women and their subordination to men."

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*Lecture delivered at the first Commencement Exercises of the Louisville School of Pharmacy for Women.

I suspect, though, that my friend's real reason was this: He knew the relations existing between medicine and pharmacy, and that a physician, therefore, was the fittest person to speak to you on this occasion. I hardly need remark that without medicines there would be no pharmacy, and without Medicine Doctors there would be no Pharmacy Doctors.

Pharmacy, as you have been told, is, briefly, the science and art of preparing and compounding drugs. The science and art of medicine consists, as briefly, in studying the effects of drugs and applying them to the healing of diseases and the lengthening of human life. In the earliest dawn of the profession to which I belong there were students also of the art which henceforth you are to practice. Candor compels me to say, however, that in the long line of great names in pharmacy which have come down from that time I recognize none belonging to your sex.

But to my profession women have given many members of true erudition and of great practical skill. In the first medical school, established during the first Christian era, women taught side by side with men. The School of Salernum contained in its faculty no names more respectable for scientific zeal and attainments than those of the three female professors—Trotula, Rebecca, and Abella—who were ready to grapple the toughest subjects in physiology or medicine.

Trotula wrote a dissertation which added greatly to her fame, and which some time, when you are tired of the pestle and mortar, the symbols of your calling, you might consult with wonder if not with profit. Her medical scholarship was so profound that when a great disputant, Rudolph Mala Corona, went to this seat of learning to try conclusions in science with its professors, she alone was deemed by him a worthy antagonist. It is due, however, to the truth of history to say that Corona was quite an old gentleman, and a widower, while Trotula was young and handsome, no less than gifted.

Her sister professor, Abella, was a poet-physician, and indited a treatise on "Black Bile" in Latin verse. This might furnish wholesome reading for you should you find yourselves at any time getting too gay.

The taste of the learned Rebecca inclined her to the same line of investigation, and she prepared a work, copies of which you may find in the older libraries.

These mothers in medicine, however, were not prolific; they left no successors worthy of their fame, and their example has not had many imitators in the centuries since they flourished.

Yet I should commit a very foolish injustice if I neglected to mention that in our own immediate times there are many of your sex, graduates in medicine, who have certainly done much and excellent work. I shall mention but two. One, your own country-woman, Mrs. Mary Putnam Jacobi, whose writings on the practice of medicine justly place her high among physicians; the other, Mrs. Ernest Hart, of London, who has contributed to physiology some of the most advanced and important work of the day. It is still an open question whether female physicians will ever become very numerous, yet in learning they may presume to rival us, while in tact, in grace, in gentleness they are far and away our superiors. These pleasing qualities would make them welcome visitors to many a sick-chamber. If young and handsome, I have no doubt valetudinarians of our sex would look for their morning calls as they might for angels' visits, only that they would not have them "short and far between;" early and often would suit them better. The old schoolmaster in "Adam Bede," who many of you will remember as not a very knightly man, was also, I may tell you, a very sorry physiologist. Woman can do far more than he declared she could, and do it better. She makes, for instance, a better nurse than man. How much better all know who have experienced her gentle ministrations; but none so well as those who, when sick, have been thrown upon the hands of strangers. If the hospitals and infirmaries of the earth could return the sounds which have fallen upon their walls, with what myriad echoes would they testify to her angelic qualities at the bedside of the sick and dying! And how natural the conclusion, if better nurses, why not at least as good pharmacists?

Women make better nurses than men because they are quicker and gentler, more patient and forbearing. Speaking as a surgeon, women have more courage and far more fortitude than men. I have seen women prepare themselves for an operation and take their places upon the operation-table with a heroism far surpassing that of men. They take medicine and they give it better than men. They need more, or think they do. They consume more, and they have greater faith in it than men. And if all this be so, why should they not compound it better than men? They are readier and neater and honester than the sterner sex; why should n't they, therefore, make better pharmacists? I know of but one reason, and that is furnished by a somewhat ominous sentence which figures on the prescription-case of one of your teachers, and reads thus: "Silence secures accuracy." If this be not an essential in your business, I must believe that you possess every element necessary to success.

You have certainly shown yourselves to have courage, else you had not undertaken the study of what, in one sense, you have just completed. You have shown endurance, in that you have followed the course of the college throughout its full term. You have shown diligence, as attested by your teachers. You have shown adaptability, intelligence, and learning, else you had not won the coveted diploma of the institution.

I am one of those who have never subscribed to the current expressions of the day touching the superiority of one sex over the other.

I choose to believe that "each sex has what the other has not; each completes the other, and is completed by the other; they are in nothing alike, and the happiness and perfection of both depends upon each asking and receiving from the other what the other only can give."

I hold with Mr. Ruskin "that a girl's education should be nearly, in its course and material of study, the same as a boy's, but quite differently directed."

This great educator makes in this matter a single exception, that of theology. He thinks this science dangerous for women, and bids them beware of touching it. The danger here, he states, lies in the disposition of women "to recommend themselves to their Master by scrambling up the steps of His judgment throne to divide it with Him."

I have never given the question of the suitability of theology as a study for women much thought, but I must believe it possesses great natural attractions for them because of the wide field it offers for the last word.

Graduates, your education in pharmacy, which is the immediate matter before us just now, is completed in so far as the mere college curriculum goes. Your success in pharmacy as a calling, whereby you are to win your bread, will depend not more upon yourselves than upon the public. What the people decree in this matter is a law to which all, you and the men alike, must bow submissively. If they want women doctors, in either your calling or mine, such will be found ready to meet the demand. If you now, pressing forward in your work so eagerly, find your services are not wanted, you have but to take down your signs, get married if you will, or turn lecturers if you will, or to some more lucrative employment.

For my part I can see no incompatibility between the practice of pharmacy and the practice of married graces. I am in full accord with that staunch and most loyal admirer of your sex, Mr. Ruskin, who, after ascribing all that was best and truest and purest and soundest in himself to the sweet influence of a woman, even declared "that no man ever lived a right life who had not been chastened by a woman's love, strengthened by her courage, and guided by her discretion."

Permit me to hope, then, that should a desirable opportunity offer, you will remember the words I have just quoted, and chasten the suitor. Should you at any time undertake to unite the two callings, I charge you, if you would have peace to dwell within your house, to set your faces against those fair Athenians who, we are told by Aristophanes, grew dissatisfied with the management of the public finances by the mayor and city council, seized upon the Acropolis, and relegated their husbands to the kitchen to cook their own dinners, no less than perform certain other domestic duties which belonged properly to the wives. I do n't say that it would be amiss to have women made secretaries of the treasuries both public and private, for I think they have a wonderful talent for holding the purse-strings; but I warn you that if you require your husbands to broil their own chops, you may expect them to wish at least to bray you in one of your own mortars.

One word, and I will sit down. The School of Pharmacy in Louisville for Women is the first of its kind in America. You are its maiden alumnæ. The institution itself is the result of the enterprise and thought of a handful of earnest men and women, who believed that such a school was needed. It is an experiment. The fact that you have gathered in considerable numbers to avail yourselves of what it offers affords the most convincing proof that its creation was called for. The interest which is felt in it by the public at large is sufficiently shown, not only by the presence of so many here this evening, but in various other ways as well. You, as the first-born of the institution, will carry with you not only the hopes which always center in such children, but you will be followed wherever you go by the best wishes of all good men and women in this community.

Having adopted a commercial pursuit, one which has hitherto been, in this portion of the country at least, occupied exclusively by men, you should not be discouraged if the fine qualities you have shown in the class-room do not meet quick recognition over the prescription-counter. You have chosen to align yourselves with man. You have become his competitor for bread, his rival in work. Look for no other treatment than that he gives his fellows. The lines of commerce are merciless, and true banking knows no friends. The homage which has hitherto been spontaneously yielded you will, in one sense, be rendered you no more. Your Mother Hubbards will no longer cause men to bow down at your feet, and though you may anoint their eyes they shall not again see you as before. You have elected this. Competition in pharmacy—rivalry in work—you will find no less sharp than men find it. Your elbows must be put to use now in making your way through the world. Many hands that were once held out to you will now have their backs turned toward you. All this you must expect. Let it not dishearten you. The very qualities which have brought you to this post winners shall make you also winners in the fields that are before you. And though the rewards which they contain may not be all that you hope and far less than you deserve, your lives, if they be but true and simple, shall surely also be useful.

The Spirit of Wisdom, as conceived by the Egyptians, was given the form which you wear, and into her hand was placed, as a symbol, the weaver's shuttle. That Spirit of Wisdom which, let us hope, will ever preside at the shrine before which we are now gathered will henceforth carry in her hand as a symbol a pestle and mortar. May you find in them ready and pleasant means for winning both distinction and more than you need to wear.

Pharmacists are essential to doctors in medicine at least, and among these, if you but do your duty, you will find your best friends.

ON THE AFTER-TREATMENT OF AMPUTATION WOUNDS.*

BY E. KELLY, M. D.

In amputation, as in other wounds, the surgeon first looks after hemorrhage; closing the larger arteries by ligature and the smaller ones by torsion or other means. This having been done, he proceeds to wash the wound with tepid water carbolized or sublimated, or otherwise made antiseptic, and in order to thoroughly cleanse the parts of blood, bone, dust, etc., which would interfere with union of the parts. Drainage comes next in importance. The necessity for drainage is, I may say, universally acknowledged by surgeons of the present day, yet there can be no doubt that many of the unfortunate results of amputation wounds may be ascribed to the insufficient or careless manner in which it is done. Septic conditions are quickly induced by the absorption of pent-up decomposing secretions in any wound; and in wounds of this class, where we have divided bone with its open, cancellous tissue exposed to these pathogenic fluids, it is not always an easy matter to provide drainage sufficiently thorough to avert these results. Certain surgeons, recognizing this fact, prefer the open method of treating amputation wounds. The method itself is simple enough, and consists in placing the parts over a properly adjusted receptacle in which the discharges are caught while the wound is left entirely open, protected only from the currents of the atmosphere, etc., by some lightly enveloping material until the stage of active suppuration and sloughing has passed, which usually occupies twelve or fourteen days. The granulating surfaces are then loosely approximated and healing proceeds by granulation and the union of approximated granulations. In good sanitary surroundings the open method very uniformly gives a good result; the disadvantages of the practice lie in the difficulty of obtaining the requisite surroundings and the longer time occupied in healing. Its advocates argue, and with reason, that time should not be allowed to weigh against safety in such cases.

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*Read before the Beech Fork Medical Association.

Mr. Lister has taught us that by adequate drainage wounds of this class may be closed immediately, not only with safety, but with the advantage of obtaining union by first intention between at least the greater portion of the surfaces. It is this method which I myself follow, and to which I wish in a very brief and elementary way to direct attention.

Drainage to be thorough must be adequate to prevent accumulation of fluids in all parts of the wound. When an amputation has been smoothly made, one drainage-tube laid along the bottom of the wound, with its ends projecting, will usually be sufficient. But we must not be content with having secured thorough drainage when we close the wound; we must see that it is maintained throughout the entire stage of active suppuration.

Proper drainage having been made the surfaces of the wound should be brought into apposition and retained by well-adjusted sutures. The material of the sutures is not of much importance. I myself prefer silver wire in the larger amputations, but silk or linen will probably answer as well. The sutures should be inserted at a sufficient distance from the margin of the wound to insure a good hold, and care taken that they are not drawn too tightly. The wound after being closed should be protected by some efficient external dressing. For this purpose I think nothing is better in private practice than good antiseptic tow and a roller bandage. Place a cap of carbolized tow immediately over the stump and secure this with a roller bandage, and you have a very complete and excellent dressing in cases treated amid ordinarily good sanitary surroundings.

While healing proceeds in a normal way there is nothing to fear. But complications sometimes arise from perversions of the healing process, often of an inflammatory nature, and what a short time before gave promise of speedy cure runs quickly into suppuration and putrescence. I am not prepared to fall in with the more fashionable view of the day, which regards these processes as always of extrinsic origin and always capable of being prevented by thorough antiseptic measures; in a word, I do not believe that they owe their origin to the action of "specific germs." But while I reject the theory of the "specific-germ" origin of these wound complications, I do not discard antiseptic treatment of wounds, nor do I deny the influence which organic germs may exert as causative agents in the production of putrescence, etc. Whether these germs be vegetable or animal, their anatomical structure is certainly not complex, merely a cell wall enveloping a mass of protoplasm. Their only movement is that peculiar to living cells designated ameboid movement and, as far as can be observed, their only digestive apparatus is their enveloping cell wall, their nourishment being obtained by absorption from the pabulum in which they are developed. Now, there is nothing unreasonable in the assumption that organisms of this character may become so saturated with the medium in which they are suspended as to partake of the nature of this medium. If this medium should be a decomposing mass of organic tissue, these germs may thus transform themselves, as it were, into minute putrescent masses, and being by various means thrown off and disseminated through the atmosphere, may by contact with tissues in a state of lowered vitality, such as we find in wounds, become the originators of putrescence.

If you ask me how, except through the agency of a specific action on the part of germs introduced, organic matter in a state of decomposition sets up a like process in other organic matter with which it may be brought in contact, I answer by asking you how, in the inorganic world, the mere presence of one element or compound may bring about the decomposition of another compound with which it is brought in contact, without itself entering in any way into the combination or undergoing any change? This phenomenon, known as catalysis, is familiar to every student of chemistry. Billroth (Surgical Pathology) thus accounts for the influence of germs in the production of wound diseases: "My belief," says he, "is that all micrococci do not necessarily have a phlogogenous action, but only those which are formed in certain products of inflammation, such as decomposing pus or fluids of the body, putrid urine, etc., and which have there absorbed the ferment." This principle applies not to the influence of germs in the production of putrescence only, but of other diseases as well, and I think recent observations in this field of science will tend to advance this view. In regard to the innocent micrococcus constantly found in abundance on the buccal and pharyngeal mucus membranes of healthy individuals, and the harmless hay bacillus (*B. subtilis*) found in the greatest abundance all around us, Dr. J. S. Billings, in a lecture delivered February 17, 1883, at the United States National Museum, Washington, has said: "As regards diphtheria, it is probable that it is due to a common micro-organism which, under circumstances not yet understood, becomes virulent, as the micro-organisms of sweet hay infusion may be transformed into those which cause malignant pustule." Dr. Carpenter, the justly renowned English microscopist, has also said in a recent address before the British Association, that in his opinion, "there is very strong ground for the belief that even the innocent hay bacillus may undergo such an alteration in its type as to become the germ of severe disease," and "that the same germs may, under altered circumstances, produce various diseases." The expression of these conclusions from such eminent authorities certainly endangers the integrity of the "specific-germ" theory and can not but be construed as indirect testimony that the disease-producing propensities of organic germs depend more upon the character of the medium in which they are developed than upon any intrinsic power which they possess *per se*. The innocent hay bacillus, if developed in the secretions of malignant pustule, may become a causative agent in the production of malignant pustule, and if developed in a putrescent mass, may become a causative agent in the production of putrescence; and just so, if the "putrefactive bacterium" be developed in an innocent medium, it may infest a healthy wound without the production of harm.

Antiseptics of the strength used in wound-dressings are frequently incapable of killing organic germs, but they are capable o arresting the process of putrefaction; hence putrescence-laded germs exposed to their influence, though they may pass into a wound in a state of activity, are robbed of their virus and rendered harmless. And as this applies not only to organic germs, but to many other carriers of putrescence also, and as putrescence is so prevalent all around us, antiseptic protection is of decided value in the treatment of most wounds. Very minute particles of putrescent material, if exposed to the atmosphere, will after a short time lose the power of exciting a like process in organic material with which they may come in contact; and just so, if these microscopic carriers of putrescence must be wafted a considerable distance through the atmosphere in order to reach a wound, they can be productive of no harm. Therefore, if a wound be treated amid good sanitary surroundings at a distance from any source of infection, there is no necessity for the use of any antiseptic save cleanliness. This is well shown in the record of Mr. Lawson Tait's private hospital where, under the protection of rigorous sanitation, he has performed a hundred abdominal sections, with the small death-rate of three per cent, besides many other operations, with a like small rate of mortality, cleanliness being the only antiseptic used.

Mr. Savory, in 1881, gave the statistics of wound-treatment in St. Bartholomew's Hospital, in which institution the use of antiseptics had been abolished, and in the treatment of all classes of wounds the record was very highly satisfactory. Here, as in Mr. Tait's hospital, the key to success was cleanliness and good sanitation.

If, on the other hand, a wound be treated in a crowded hospital where sanitary measures are not efficiently executed, or in any other situation in proximity to sources of infection, it is the duty of the surgeon to use every antiseptic precaution throughout the whole course of treatment. But, as I have stated, I consider the protection afforded by the use of an antiseptic wash and a dressing of antiseptic tow all that will be required in the treatment of most wounds of this class coming under our observation in private practice.

So much for the protection of a wound from extrinsic causes of putrescence and like complications. But notwithstanding our best efforts in this direction, in some wounds these complications will arise; not from the entrance through some unguarded avenue of mischief-making germs, but from intrinsic causes. If the reparative resources of the tissues involved be interfered with by such constitutional affection as the strumous diathesis or by very much lowered vitality from any cause, putrescence is liable to attack the wound, whether or not there be a bacterium or a micrococcus any where in the vicinity of it. Our efforts to meet these cases, if successful, must be directed to the general system.

After the wound is properly dressed, the next step in the treatment is to place the stump at rest and to control the jumping of the muscles, and the more perfectly this step is executed the more certain are we to carry the wound through to a successful issue. Placing the stump in a well-adapted, comfortable splint will aid us very materially in obtaining the desired state of rest. Should evidence of septic poisoning supervene and the wound when examined be found healing by first intention, remember the possibility of an accumulation of pus or other pathogenic fluid, capable of absorption, being confined somewhere within the wound by the healing of the tissues around it. Should such be the case, you re-open the wound or otherwise reach and evacuate the confined fluids. If comfortable to the patient, allow the first dressing to remain till it becomes displaced or soiled, but not till it becomes offensive. Discomfort or pain should be quickly attended to. Remove sutures and drainage-tubes as healing progresses. Maintain the general health no less than care for the stump, remembering that "experience and science alike tell us that while we look after wounds we must not forget the body in which they are, and that pure air, good food and careful nursing are not less essential than lotions and sutures and dressings."

LEBANON, KY.

Reviews.

A Manual of Diseases of the Throat and Nose: Including the Pharynx, Larynx, Trachea, Esophagus, Nose and Naso-Pharynx. By MORELL MACKENZIE, M. D. Vol. II. Diseases of the Esophagus, Nose and Naso-Pharynx. New York: Wm. Wood & Co., 56 and 58 La Fayette Place.

This is the concluding volume of a work which must be recognized, wherever read, as the very best yet written on the subjects of which it treats. One secret, perhaps, of this excellence may be found in the fact which the author discloses in the preface: "It is now twelve years," he said, "since this work was commenced, and during that period there is scarcely a page that has not been written and re-written several times."

It is pleasant to note that the author shows entire familiarity with the writings of Americans upon diseases of the nose and throat, and in his allusions to them pays handsome tribute to their worth.

The Medical Graduate and His Needs. By GEO. C. WELLNER, M. D. Pp. 100. Detroit, Michigan: George S. Davis. 1884.

The needs of the young doctor are well set forth in the modest little volume under notice, and as much may be said of the means offered for their supply.

Advice, we all know, is cheap, and the name of those who give it is legion; while the number who take it is conspicuously small —especially among physicians. Which leads one to ask, does the new graduate require a Mentor to point out to him his needs? Does he consider advice, other than his own, among the necessities? Hasn't he on all sides more advice than he can follow?

And does n't he carry continually about with him advice to sell? All roads lead to Rome. Every man will choose his own route. Finger-boards go for little. We graybeards know that youth has not reached the "arch where thro' gleams that untraveled world whose margin fades for ever and for ever" when he moves; but *he* thinks he has, and so is in no frame of mind to accept advice. Ulysses drank delight of battle. His well-loved Telemachus sought "through soft degrees to subdue and to make mild a rugged people." "He works his work; I mine," said the sire. It is the same with the newly made physician. His face is set toward Rome. He may n't go your way nor mine. But he 'll get there all the same.

The Lock-Jaw of Infants (Trismus Nascentium), or Nine-day Fits, Crying Spasms, etc. Its History, Cause, Prevention, and Cure. By J. F. HARTIGAN, M. D., Washington, D. C., Member of the American Medical Association, etc. New York: Bermingham & Co., 28 Union Square. 1884.

This little work is a really useful contribution to the literature of this variety of lock-jaw. The aim of its author is to establish by a number of carefully observed cases the mechanical origin of the disease, in a word, to verify Marion Sims's hypothesis as to the cause of *trismus nascentium.* Whether he has succeeded in doing so or not, he has produced a very readable and instructive book.

A Text-book of Pathological Anatomy and Pathogenesis. By ERNST ZIEGLER, Professor at Tübingen. Translated by D. MacAlister, M. D., Part II. New York: William Wood & Co.

This is another one of "Wood's Standard Medical Authors." Prof. Ziegler has long been a successful teacher in the branch of which he writes, and in the volume under consideration he has put in small space and in a singularly clear and forcible way the substance of his class lectures. He has done much to assist the student by numerous well-executed wood-cuts. The work as a whole is one of the very best of its class.

The Medical Record Visiting List. William Wood & Co., Publishers, 56 and 58 Lafayette Place, New York, N. Y.: Annual or Perpetual.

Contents: The Metric System, Thermometric Scales, Table of Signs, Table for Estimating the Probable duration of Pregnancy, Approximate Equivalents of Small Weights, Doses of Drugs used for Subcutaneous Injection, Doses of Common and Rare Drugs, Drugs suited for Atomization, Inhalation, Doses, etc., Disinfectants; The Urine, Chemical Analysis, Poisons and their Antidotes, Emergencies, Treatment of Asphyxia, Visiting List with Special Memoranda, Practice, Obstetric Engagements, Record of Vaccination, Addresses of Patients and others, Cash Accounts, etc.

This visiting list is all that could be desired in its way; the physician who has once used it is not likely to seek a better.

The National Dispensatory. By ALFRED STILLÉ, M.D., LL.D., and JOHN M. MAISCH, Ph. D. Third edition. Pp. 1755. Philadelphia: Henry C. Lea's Son & Co. 1884.

Five years back, the first edition of this work being exhausted, the second was brought out. We now have the third edition, augmented in size by seventy-five pages, while the size of the printed page itself has been increased by half an inch each way. Much of the work has been re-written, new articles have been added, nearly a hundred more illustrations inserted, and the general index greatly improved. The volume as it now stands is simply indispensable to the practitioner.

Physician's Visiting List, 1885. Lindsay & Blakiston; P. Blakiston, Son & Co. Thirty-fourth year of its publication.

Containing Calendar, List of Poisons and Antidotes, Dose Tables, re-written in accordance with the Sixth Revision of the U. S. Pharmacopeia, Marshall Hall's Ready Method in Asphyxia, Lists of New Remedies, Sylvester's Method for producing Artificial Respiration, with Illustrations; Diagram for Diagnosing Diseases of Heart, Lungs, etc.

The only possible drawback to the coming of this standard visitor is, that it denotes the early coming of another year. But for this we should greet it as being a perfect work of its kind—compact, complete, simple, handy.

A Compend of Organic and Medical Chemistry: Including Urinary Analysis and the Examination of Water and Food. By HENRY LEFFMAN, M. D., D. D. S. Philadelphia: P. Blakiston, Son & Co. 1884.

With the rapid advance being made in hygiene and sanitation the above work is a most timely publication. It is a condensed compend of organic chemistry, yet containing all that the student need know on that subject, while the chapters devoted to medical chemistry represent what is most useful in that department.

Medical Society of the State of Tennessee: Transactions. 8vo, pp. 140, paper. 1884.

This is a neatly printed volume containing some valuable papers, which would have found more readers had they been published in a medical journal. The constitution, by-laws, and code of ethics still figure among its contents and cumber a fourth of the space of the work.

A Practical Treatise on Disease in Children. EUSTACE SMITH, M. D., Physician to East London Children's Hospital and to the Victoria Park Hospital for Diseases of the Chest. Pp. 884. New York: William Wood & Co. 1884.

Dr. Eustace Smith has long been known through his monographs on the wasting diseases of children. The present treatise will introduce him to a wider circle of readers, and not one of the number can lay down the book without a keen sense of obligation to the author.

A Practical Treatise on Fractures and Dislocations. By FRANK HASTINGS HAMILTON, late Professor of Surgery in Bellevue Hospital Medical College, and Surgeon to the Bellevue Hospital, New York, etc. Seventh American edition. Philadelphia: Henry C. Lea's Son & Co.

The learned author of this classical treatise is granted the satisfaction of seeing it reach a seventh edition in a little less than a quarter of a century, and finding it confessedly the best work of its kind in any language.

Drugs and Medicines of North America. A Quarterly devoted to the Historical and Scientific Discussion of the Botany, Pharmacy, Chemistry, and Therapeutics of the Medicinal Plants of North America, their Constituents, Products, and Sophistications. Cincinnati: J. N. Lloyd & C. G. Lloyd. 1884.

This is a well-printed quarterly devoted to a special department of materia medica, and, if the two numbers now before us are to be taken as an earnest of its future, can not fail to be sought by all who are interested in our indigenous flora. It is published at the remarkably low price of one dollar a year.

Minutes of the State Medical Society of Arkansas, at its Ninth Annual Session. 8vo, pp. 55, paper.

The State Medical Society of Arkansas improves on the transactions of the societies of her sister States, and publishes only the minutes of the annual meeting and the address of the president. The regular papers find their way to a larger circle of readers through the medical journals. This is as it should be.

A Treatise on Ophthalmology, for the General Practitioner. Illustrated. By ADOLF ALT, M.D. Chicago, St. Louis, and Atlanta: J. H. Chambers & Co. 1884.

A work on ophthalmology written solely for the general practitioner has long been a desideratum. The author of the treatise under notice is evidently acquainted with the daily needs of the "all round man," and, it may be added, has in the volume before us supplied them well.

Transactions of the Louisiana State Medical Society, at its Sixth Annual Session, held at Baton Rouge, Louisiana, May 21, 22, and 23, 1884.

The number of papers in this volume is small, but their quality is good—too good to be hidden in a form which naturally finds so small an audience.

Clinic of the Month.

THE NEW SPECIFIC FOR RHEUMATISM.—The New York Medical Journal publishes a paper* by Dr. H. H. Seelye, of Amherst, Massachusetts, on the use of the oil of gaultheria in the treatment of the various types of rheumatism, the observations having been made in three of the wards of a large hospital where special advantages were offered for testing the merits of the drug. We make room for copious extracts.

The medicine can be administered in various ways, the most agreeable being in capsules, either alone or mixed with salicylate of sodium, or in soda-water as a flavoring. We gave it in an emulsion of ten minims of the oil to half a dram each of glycerine and water. If the patient had been sick for some time, and the inflammation of the joints was extensive, we usually ordered two drams of this mixture every two hours during the day, and every three hours throughout the night. Under this treatment almost invariably within twelve hours the patient would express great relief, and by the end of twenty-four hours the pain and swelling would have left all the joints except, perhaps, a little in some one articulation, and there would only remain a slight stiffness of the previously inflamed parts, due probably to the distension of the adjacent tissues by reason of the swelling, which had now disappeared. Before or about this time, however, the patient would generally complain of some ringing in the ears and deafness, similar to that produced by large doses of quinine, but usually not so markedly annoying in character, and he would be apt to have some headache or a sensation of fullness in the head. These symptoms occurring synchronously with the cessation of pain, tenderness, and swelling from the joints, and with a sudden fall of temperature to the normal, were generally considered an indication for diminishing the dose of the medicine, and it was therefore usually reduced to one dram every three or four hours, according to the relative amount of the cerebral and joint disturbance. If too much of the medicine was still given, its evil effects became more marked. The patient would now experience a loathing of the drug; nausea and vomiting would set in; the deafness, tinnitus aurium, and headache would increase; the muscles of the hands, limbs, and face would become tremulous; the countenance would be flushed and the whole body be bathed in a profuse perspiration; and at length the patient would become delirious. These extreme symptoms, more or less modified, were observed by us in perhaps eight or ten cases of acute articular rheumatism, but they almost invariably occurred in patients who had been hard drinkers, and in whom the attack of rheumatism was most probably due to some unusual exposure to cold or wet while in a state of intoxication. In the large majority of cases only a little ringing in the ears was complained of, and this would soon cease upon the diminution or complete withdrawal of the drug. There were also very many cases in which no evil results were ever manifested, but the patient speedily recovered without experiencing any annoyance.

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*Read before the Hampshire County, Mass.. Medical Society in July.

There would always be a certain number of cases which would yield promptly to the remedy, so far as relieving the acute suffering, reducing the inflammatory swelling, and lowering the temperature were concerned, but still a little pain on motion, or a slight stiffness, would hang about some one joint, usually the shoulder, wrist, finger, or ankle, and it would be several days longer before the patient could say that he was perfectly free from pain and felt well. Again, there would be comparatively few patients who, after being speedily relieved, would be up and moving about the ward for some days without taking any of the medicine, and then there would come a sudden relapse, and the pains would return, though with less severity, in one or two joints. But here a renewal of the remedy usually induced a rapid recovery. In order to guard against such relapses and to be sure that the cure was permanent, it was our custom to keep the patient in bed and to continue the medicine in smaller and less frequent doses for at least two days after all symptoms of the disease had disappeared, then to retain him in the ward for two or three days longer without giving him any medicine but tonics, and then, if there was no return of the symptoms, to discharge him cured. In a very large majority of cases the patients themselves asked, about this time, to be discharged, because they felt so perfectly well.

The one variety of rheumatism in which this remedy was found to be most efficient and rapid as well as permanent in its action is what is commonly known as acute articular rheumatism; the more acute the attack, the more joints are involved, the more inflamed and swollen they are, and the higher the temperature, so much the more speedy and complete is the cure apt to be. It is, in fact, in these worst of all cases that the remedial power of this drug is most wonderful to see. Yet it must not be supposed that it is of insignificant value in the more subacute forms of the disease; for here too it almost invariably diminishes the severity of the suffering, and after a time often effects a radical cure.

In the chronic forms of rheumatism the action of the remedy seems to be limited in most cases to merely giving prompt relief from the acute pains and swellings attending exacerbations of the malady, and for this purpose it is very efficient. But, like most other drugs, it is powerless to correct the permanent damage done to joints which have long been undergoing morbid changes in their fibrous and cartilaginous structures. The same statement is true, as a rule, in regard to those other obstinate forms of the disease known by the various names of gouty rheumatism, arthritis deformans, rheumatoid arthritis, gonorrheal and syphilitic rheumatism, etc. In the active stage of all these some temporary relief will usually be afforded, while a complete recovery under its influence is very rare.

Muscular rheumatism, lumbago, coxalgia, sciatica, and the like, seem to be variously influenced. Some patients, after the medicine is begun, experience almost immediate relief, while others do not seem to be benefited at all. As regards the frequency of cardiac complications developing under this plan of treatment, it is certain that the liability to them is not increased.

SYPHILIS: ITS PREVALENCE, NATURE, AND TREATMENT.—A. Cooper, F. R. C. S., Surgeon of the Lock Hospital, summarized a paper on this subject before the Section on Surgery, British Medical Association, in these words: (1) The disease known as syphilis is due to the action of a specific virus, a pathological agent separate and distinct from every other animal poison, and never originating *de novo.* (2) The soft venereal ulcer (pseudo-syphilis) is due to the action of irritating secretions, which, so far from being identical with the poison of syphilis, are altogether different and distinct from it. Such an ulcer may, and frequently does, arise *de novo* from inoculation of the products of inflammation, and may then be transmitted from one individual to another. (3) The virus of syphilis may be commingled with the secretions of a pseudo-syphilitic sore, or with secretions which by themselves would cause such a sore. In either case, the resulting ulceration would possess double properties, evidences of which would sooner or later be exhibited.

Assuming that the diagnosis has been correctly made, what is the best plan to adopt in dealing with the primary manifestation of syphilis? Before answering this question, there is another that suggests itself, namely, as to whether any of the so-called abortive measures are useful or the reverse. Several methods have been suggested for destroying the induration; some authorities advocate excision by means of scalpel or scissors, others use various powerful caustics. My own belief is that all such attempts are useless. I regard the induration as the local manifestation of the constitutional infection, which would continue to develop itself, even were it possible to remove every trace of the primary lesion. Excision of the induration is, however, still practiced by a few surgeons, and they assert that, in some cases, but by no means in all, the excision is not followed by any return of the induration, or by any appearance of constitutional symptoms. They regard the induration as a local lesion, in which the syphilitic poison attains its full development, and from which it is conveyed to lymphatic glands and other parts of the body. Some, indeed, assert that excision is not contra-indicated even by swelling and induration of the lymphatic glands. My own opinion is that the glandular affection is the most important sign of the nature of the case. It is certainly impossible to reconcile the conflicting statements with regard to the efficacy of the so-called abortive treatment. It is, however, a fact that not a few of those who once practiced it are now convinced of its inefficacy; and, in all probability, this plan of treatment will sooner or later be discarded.

I suppose that, at the present day, most surgeons are agreed that mercury is the medicine to be relied upon in treating syphilis; but there is, I believe, much difference of opinion with regard to the details of the treatment. Some, having diagnosed induration, withhold the exhibition of mercury until additional symptoms have developed themselves. Others are even more reluctant to have recourse to mercury. They treat the first eruptions that may appear with iodide of potassium, and prescribe mercury only when the cutaneous manifestations are particularly obstinate. This hesitation is, no doubt, caused by the fear that mercury will do mischief in some way or other. But if proper precautions be used, such fears are groundless, and to wait for further manifestations is, from my point of view at least, decidedly unreasonable. I regard the induration as a symptom of the contamination of the system, as significant in this respect as any eruption, and I firmly believe that the earlier mercurial treatment is adopted after the diagnosis has once been made, the better the prospect of getting rid of the disease.

Having determined to administer mercury, the next question is, what is the best and most convenient method of using it, and what is the best preparation?

My opinion is that, in a general way, the most convenient method of administering mercury is by the mouth, and that blue pill is the best preparation.

The patient must, of course, be carefully watched, and the dose must be reduced, or the medicine stopped for a time, if the least signs of salivation appear. Great care must be taken to avoid salivation, the production of which is not only unnecessary, but mischievous. Besides doing harm in other ways, its occurrence necessitates the premature cessation of the mercurial treatment, and this, in my opinion, interferes with the production of its good effects. To be throughly efficacious, the course of mercurial treatment must be a prolonged one. This is a point upon which I would lay great stress.

When I first began to treat syphilis, it was the fashion (whenever mercury was given) to subject the patient to a single course, extending perhaps, over a few months, and then to consider that nothing more could be gained from the medicine, and that its further use should be dispensed with.

Experience has convinced me that this view is erroneous, and that the practice based upon it is bad. If we wish to cure syphilis with mercury, the treatment must extend over two years; I mean that the medicine must be given during this time in courses of weeks or months, with certain intervals between them. As a general rule, I advise a six months' course at first, to be followed by an interval of a couple of months, during which time the medicine is discontinued. Another course of three months is then advisable, after which a longer interval may be allowed; a third and a fourth course, with an interval between them of three or four months, will complete the treatment. The carrying out of this plan requires much self-control on the part of the patient, and sometimes it is impossible to protract the treatment to this extent. Whenever circumstances are favorable for its adoption, every effort should be made to induce patients to submit to it. No patient should be allowed to marry until he has undergone such a course of treatment as I have just described, and has subsequently remained free, for one year at least, from any sign of the disease.

There are certain circumstances which contra-indicate the use of mercury, even when induration is actually present. It is seldom safe to give mercury to phthisical subjects, unless the chest affection is slight, and the patient's health is good in other respects. Iodide of potassium is generally to be used for these cases. When albuminuria exists, mercury must, of course, be withheld, unless there be reason to believe that the renal affection is due to syphilis.

No hard and fast rule can be laid down with regard to mercury for syphilis contracted by scrofulous subjects. If the symptoms of scrofula are not very severe, mercury may be given tentatively and in small doses. Iodide of potassium is the substitute, if the mercury appears to be mischievous. Profound anemia, and the existence of serious disease in any important organ, would contra-indicate mercury. As a matter of course, the least symptom of sloughing or phagedena would prevent any notion of mercury from being entertained; and if these complications set in during a mercurial course, the medicine must at once be discontinued.

While mercurial treatment is being carried on, especially when there is any ulceration about the mouth and throat, a few simple precautions are necessary. Alcohol and tobacco must be avoided, or used very sparingly. Exercise and fresh air tend to prevent salivation; and the skin should be kept perfectly clean. When any eruption appears, confinement to the house is desirable.

The early and continuous adminstration of mercury, in the way I have just recommended, appears in some cases to cut short the disease; that is to say, it prevents any further manifestations. Several instances illustrating the truth of this statement have occurred in the course of my practice. In one case, a man, aged thirty-five, presented a well-marked indurated sore, with indurated and prominent glands on both sides. I prescribed blue ointment locally, and blue pill internally. The latter has been continued for a year, and no secondary manifestations whatever have appeared. In two other cases, lately under my care and similarly treated, six and eight months respectively have elapsed without any other symptom. As a matter of course, it must be admitted that such a result can seldom be attained, but I feel quite sure that the early and continuous administration of mercury invariably mitigates the severity of any symptoms that may present themselves.

As regards other plans of administering mercury, they all are accompanied by certain drawbacks. Inunction is doubtless an efficacious method, but is uncleanly, and patients do not like it. The mercurial vapor-bath is troublesome, its effects are uncertain, and very little mercury gets into the system, unless the patient inhales the vapor freely. It is, however, very useful in the treatment of cutaneous manifestations. As regards other preparations, I give the iodides of mercury for the later stages. They are not to be recommended for the earlier ones, when we wish to produce the effects of mercury alone. I need not say any thing about iodide of potassium, as the drug is useful only in the later stages, and I do not regard it as an antidote to syphilis. I never give it for primary and early secondary manifestations, unless mercury in any form is contra-indicated. Its good effects are often very striking in syphilitic bony lesions, and in syphilitic affections of the nervous system. (British Medical Journal.)

On the Contagion of Phthisis.—J. Henry Bennet, M. D., says (British Medical Journal): There is no ignoring the fact that the doctrine of the contagion of phthisis is rapidly gaining ground with the junior members of the profession, especially abroad, and that its general adoption would lead to much that is distressing to the patients, to their relatives, and to society in general.

If it were true that all or nearly all the cases of phthisis observed have their origin in contagion, as asserted by some prominent writers, such as M. Debove, the Paris hospital-physician, the fact must be accepted, however disastrous in its social bearings. It is asserted that, in a person having a constitution hereditarily predisposed to consumption, or prepared by anemia from whatever cause, exposure to the breath and to the emanations of a consumptive individual leads to the inoculation, to the development of phthisis, and that most if not all cases of phthisis thus originate, that is, in contagion.

If this statement be correct we can not avoid the inevitable sequela. We must adopt the same preventive precautions with our patients as we do with those suffering from scarlatina or smallpox. Phthisis, however, is so much more universal a disease, causing, as it does, the mortality of from one seventh to one tenth of those who die in large Northern towns, that the result of such a pathological discovery would be infinitely more trying to society. Indeed, social relations would be all but disorganized, a consumptive person would be considered like a leper in olden times, one to be separated from his family, to be isolated, shut up. He must be refused admission into hospitals or asylums. He would have to live months, years, in a tent. His clothes should be destroyed, and whether he dies or recovers the home which he has inhabited should be burnt. It would be perhaps a charity to mankind to kill him at once, like an animal attacked with rinderpest; for, as the duration of the ordinary forms of phthisis may extend over years, during that period every time he breathed he would be filling the atmosphere with the germs of disease, wafted by the atmosphere to be scattered far and near. Such is the logical sequela of the doctrine of the contagion of phthisis carried to an extreme, as it is now being carried by many, especially in Germany and in France.

Fortunately, clinical experience shows that this doctrine is not the expression of facts; that, if phthisis be communicable from one individual to another—contagious, in a word—it is only so to a very limited degree, and under very exceptional circumstances.

In twenty-five years I have only seen one case that I could refer to contagion; and even that case might be otherwise explained. I have studied with care the history, and the personal and family antecedents of my patients, which was comparatively easy in the class of life to which they belonged; and I have nearly always found the explication of their disease either in an antecedent lowering of vitality, produced in a hundred different ways, or in hereditary predisposition, without its being necessary to have recourse to contagion. I may say that I have lived with numbers of these consumptives in the large hotel which I have always inhabited, and have attended shoals of them living in other hotels, or in small boarding-houses, or in villas. Often these consumptives passed their lives, especially the continental ones, notwithstanding my persistent advice, in badly ventilated rooms, surrounded by relations and servants, who lived with them for many months consecutively, for half the year; and yet I can not recollect a single case of evident contagion occurring at Mentone among them.

The experience of my colleagues at Mentone, twenty-three in number, is the same as my own. At our Medical Society, of which I have the honor to be president, we have repeatedly discussed this question, and all agree with me that, with here and there an exception, they have not seen phthisis propagated by contagion. The few cases they have observed capable of bearing this interpretation have generally also been capable of being otherwise explained. Dr. Schnyder, the learned medical resident of twelve years of the well-known baths of Weissengen, near Berne, in Switzerland, where many hundred consumptive cases congregate every summer, has only seen four or five instances during that lengthened period that seem to favor the doctrine of contagion, and those admit of other explanation. Yet at Weissengen they are aggregated all day in rooms small for their number and are constantly spitting about, in-doors and out, as continental people do, without any disinfection being resorted to, at least until quite recently.

I do not deny the contagion of phthisis, far from it, I accept it in certain conditions and limits, bacilli or no bacilli; but I do not consider it to be the regular habitual cause of phthisis, as asserted by many. Like all the seniors, I am watching with interest the labors of our juniors, ready to accept any change of doctrine they may present to our notice the moment its truth is proved. Such doctrinal changes must be founded, however, on clinical experience, as well as on microscopical research. In the meanwhile, as I have repeatedly stated, the contagion theory will help on powerfully to the general acceptance, in health and disease, of the physiology of respiration. It is still shamefully ignored in the routine of daily life as well as in the sick chamber by medical men as well as by their patients.

THE ASPIRATOR AS A MEANS OF DIAGNOSIS AND TREATMENT IN DISEASE.—F. Bowreman Jessett, F. R. C. S., London, spoke as follows before the British Medical Association (British Medical Journal) on the Aspirator as a Mode of Treatment.:

Dr. Dieulafoy lays down the following law as the result of his experience, and I do not think we can do better than act by it. "When a fluid, whatever be its nature, gathers in a serous cavity, or in any organ, and when that cavity or that organ is accessible without danger to the patient, our first care should be to withdraw that liquid; if it again form, it must be again withdrawn, repeating the operation frequently, if necessary, till the serous membrane is exhausted by this purely mechanical and quite inoffensive means, and without attempting to modify the secretion by irritating and sometimes dangerous agents." The principles of this rule are undoubtedly good, but I think the latter part of it may be somewhat modified; I refer to not attempting to modify the secretions. I think, without doubt, that much good may be effected by washing out cavities that have contained collections of pus with some disinfecting fluids, and, in some instances, I have no doubt it is advisable, to inject fluids that will set up a certain amount of inflammation in the cavity.

The diseases in which aspiration may be employed with success may be divided into five groups:

1. Fluids accumulating in serous cavities: that is, hydrocephalus, hydrarthrosis, pleurisy, empyema, pericarditis, and effusion into synovial cavities.

2. Fluids formed in deep parts of organs: abscesses in hydatid tissues of the lungs or liver, cysts of spleen, omentum, ovarian cysts, retention of urine, strangulated herniæ.

3. Liquid formed within the cellular tissues of various regions: congestive abscess, bubo, perinephritic abscess, iliac or psoas abscess, periuterine abscess.

4. Collection of air or gases in cavities or organs: for, example pneumothorax, tympanites, and strangulated hernia.

5. Removal of *dèbris* from the bladder after lithotrity, and diagnosis of tumor in the bladder.

Effusion into the Pleura. There can be no doubt, I think, that when fluid is formed in the cavity of the pleura, the quicker it is removed the better; that is, if it can be done without danger to the patient by the admission of air into the chest. How often one meets with chest deformity, the result of old pleurisy, where the fluid has either been allowed to remain in the chest, till such time as absorption has taken place, or till it is found that the fluid still continues unabsorbed, notwithstanding the use of medicine and internal absorbent applications, when it is removed by tapping; not, however, until the lung is compressed, and in very many cases bound down by adhesive inflammation and by bands of lymph. When once the physician is convinced that fluid is secreted in the pleural cavity, even in the acute stage, I am convinced that the sooner the fluid is removed by aspiration or by siphon-tube the better; and even if the operation have to be repeated two, three, or four times, yet no mischief is likely to arise from the operation. On the contrary, by relieving the pressure on the venous circulation, the congested state of the lung will be relieved, and the patient be in a much more favorable position for recovery. In cases of chronic effusion, where the lung is already compressed, then it would be wise to remove the fluid as early as possible and give the lung a chance of expanding again and regaining its functions. The same rule applies in empyema; but in this case I think much good can be done by washing the pleural cavity out with some weak antiseptic lotion.

In chronic cases, great care must be taken not to remove the fluid too quickly; in fact, you can not be too cautious, as there is always a fear of syncope ensuing. The reason of this is obvious, as the lung on the diseased side being bound down, and possibly diseased, or in parts in a state of collapse, the healthy lung can not adapt itself at once to fill the cavity which has been emptied, and venous congestion and syncope are very likely to take place. Dr. Douglas Powell, Dr. Godrich, Dr. Behrer, and others, have drawn attention to this point. I can not, however, but think that the danger from this source has been somewhat overrated; at any rate, out of a number of cases I have seen operated on, I have never seen any dangerous symptoms take place. Neither can I understand how such a state of things could take place; as it is evident that, unless very great suction-power be exercised, it would be impossible to draw out the fluid so as to give a vacuum in the chest. The aspirator that Messrs. Maw & Co. have made, and which I now have the pleasure of introducing to the notice of the Association, at any rate obviates all risk of such an accident, as by it you have the reservoir completely under control, and you can exercise any amount of suction you like.

In case of chronic pleurisy, however, I should prefer aspirating the chest on more than one or two occasions, and emptying little by little, and so giving the damaged lung time to recover itself without putting any very great extra labor on the lung on the sound side.

Dr. Godrich has drawn attention to the fact that he has seen the lung wounded on more than one occasion. This may be obviated by using a needle with a sheath to it; so that, as soon as you have introduced the needle into the chest-cavity, you can withdraw the point of the needle into the sheath; or the needle may be bent over at an angle of about 40°, so that the lung shall not be drawn upon the end of the cannula.

In cases of empyema it has been objected that, although you may empty the chest again and again, yet the pus will rapidly reform; and that therefore it is far better to perform paracentesis with an ordinary trocar and cannula, and to introduce a long drainage-tube, the end of which is to be emptied under a solution of some antiseptic. It is urged that in this way the chest-cavity can thus be kept washed out as often as is required. I can not myself see any advantage in this, as the chest may be aspirated and washed out as often as necessary without any danger to the patient's life. Other surgeons advocate a free incision in one of the intercostal spaces, and emptying the chest.

Pneumothorax. In some cases of traumatic pneumothorax, I think aspiration may be practiced with the best possible results. Dr. Herbert Page has published a case in which, owing to a wound of the lung caused by the in-driving of a fractured rib, there was pneumothorax, with total collapse of the right lung. There was great dyspnea and collapse. The chest was punctured, four hours after the accident, by Dieulafoy's cannula; and, on exhausting the air from the pleural cavity by means of the pneumatic aspirator, immediate improvement in the condition of the patient followed. At the time of the operation, blood was drawn into the receiver; and an examination of the chest on the day after the injury revealed dullness on percussion at the base on the left side, due to the presence of blood. The aspirator was used three times subsequently, for the removal of the blood and the further withdrawal of air from the pleura. The patient made a good recovery. Dr. Page, while admitting the advantages of the use of the aspirator in these cases, drew attention to a possible source of danger from hemorrhage into cavities exhausted of their contents by the aspirator. There can be no doubt that, in a case of wound of a vessel in the lung by the broken rib, accompanied by pneumothorax, the withdrawing the air from the pleura might, and probably would, encourage bleeding from the wounded vessel; but here, as in effusion of fluid into the pleura, I would urge the great importance of withdrawing the air very gradually, and not attempting to empty the chest-cavity entirely at the first aspiration. If this precaution be taken, I can not think there is any very great risk of increasing the hemorrhage. At any rate, as in the case related by Dr. Page, the relief given quite out-weighed any danger there might be from such a source.

Pericarditis. Removing fluid from the pericardium by means of aspiration, in effusion into the pericardium, has been now practiced in this country pretty often, but very much more so in France and Germany. Mr. Bartlett, of Birmingham, tapped a case of Dr. Russell's, who was suffering from acute rheumatism, urgent dyspnea being the prominent symptom. He withdrew fourteen ounces of fluid, and the patient did well. Dr. Shingleton Smith also reports a case in which he removed a quantity of fluid from the pericardium, and the patient made a good recovery.

Ascites. There can be no doubt of the use of the aspirator in removing fluid from the abdominal cavity in cases of ascites. The advantages over ordinary tapping are that the fluid can be withdrawn slowly and gradually, and can be stopped directly the patient shows the least sign of faintness or dyspnea. The operation is so simple that it can be repeated again and again without any fear of setting up local inflammatory mischief.

Liver. There is, perhaps, no organ in the body which is so subject to abscesses and hydatid cysts as the liver; and in these cases the aspirator can be introduced, the abscess or hydatid emptied, and the patient in all probability cured; at any rate, he is put in a very much better position than he could possibly be by any other mode of treatment. Before the aspirator was invented, in cases of abscess of the liver, we were obliged to wait until there was adhesive inflammation, causing the peritoneum covering the abscess to adhere to the parietal peritoneum, before the surgeon could venture to open the abscess either by the lancet or by the trocar and cannula. Abscesses have often emptied through into the peritoneal cavity, with the result of the death of the patient, or they may have burst into some portion of the intestine, and so emptied themselves, in which case the patient usually recovered; they may perforate the diaphragm and burst into the lung, the pus being expectorated, and here again many patients have recovered. While, however, the abscess was eating its way into these organs, the patient's strength often failed and he died.

The introduction of the aspirator has happily been the means of our saving many poor sufferers from months of agonizing pain, and also very many have been restored to health by its early application. I think it can not be too forcibly impressed upon every physician or surgeon, that, if a patient present himself who has a circumscribed hard swelling in the liver, the nature of which is doubtful, it should at once be punctured with the aspiration-needle, and, if it should turn out to be an abscess or hydatid cyst, by means of the pneumatic aspirator the cavity can be emptied. Again, I would go further and say that, if the patient present any symptoms of hepatic abscess, and if there be any one tender spot traceable over the liver, the surgeon is quite justified in puncturing the liver at the tender spot, with a view of discovering an abscess.

Surgeon-Major Condon has recorded twelve cases that came under his notice and treatment: seven perfectly recovered and five died; of these five he points out that, "Four of them were in a dying state when received by me under treatment, and the operation was merely resorted to as a *dernier ressort*, and with the satisfactory results of relieving suffering and prolonging life." In one case he tapped an abscess fourteen times, when a second abscess was discovered, which was tapped sixteen times, and the patient was enabled to be removed to a P. & O. steamer and conveyed to England, where he died. Mr. Condon remarks that the enormous quantity of pus taken from his liver (about four hundred ounces) is, he believes, the largest quantity taken from a human liver on record. Numerous other cases have been reported by Sir Joseph Fayrer, Dr. Ball, and others. Dr. Beahmy has practiced it in many cases, and all but one were successful, in which case he did not reach the abscess.

In some cases recorded, when liver-abscess was suspected, the liver was punctured sometimes several times, and no abscess was discovered; but the patients were very much relieved by the operation, the pain disappeared, and the distressing symptoms were much alleviated.

Dr. Heaton reports a case of hydatid of the liver successfully treated, and draws attention to the advantage of this instrument over the trocar and cannula, as in the latter you have to set up adhesive inflammation of the peritoneum before tapping. Cases also have been reported by Mr. Jessop, and also by many French surgeons.

Tympanites. Aspiration has been practiced successfully in extreme tympanites, and in emptying ovarian cysts; but I do not know that there is much advantage in this instrument over the trocar and cannula in these affections.

Distension of the Bladder. In distension of the bladder due to either impermeable stricture or traumatic rupture of the urethra, or either enlargement or cancer of the prostate, when it is found impossible to pass a catheter, I have had great reason to be satisfied with the use of the pneumatic aspirator, the bladder being punctured with a fine needle over the pubes; and here I recommend the use of a large curved needle, so that you can efficiently empty the viscus.

In one case I had under my care, of impermeable stricture of the urethra with retention of urine, in which I failed to pass a catheter, I emptied the bladder with the aspirator over the pubes; and in a few hours afterward, the spasm being relieved, the patient passed his urine by the urethra. I was enabled to pass a small instrument through the stricture, which I split up, and the patient made a good recovery.

Hernia. The French surgeons have practiced with good results aspiration in cases of strangulated hernia, and in our own country cases have been reported by Mr. Jessop, of Leeds, and others. The cases in which it appears to me that such a course might be adopted are those in which there is a collection of fluid in the sac which prevents the surgeon from being able to use direct pressure on the strangulated gut, and cases where there is a collection of flatus in the gut itself which increases its caliber and prevents its return. In such cases as these, it is not difficult to see that great good might result by aspiration; and if, after removing the fluid in the sac or the flatus from the gut, we fail to be able to return the hernia, I do not think the patient is placed in any worse position for operation than before.

Dieulafoy reports twenty-seven cases in which he used the aspirator for strangulated hernia, twenty of which were successful reduction of the gut by taxis following the operation. In the remaining seven cases, it was harmless; and of these, three died, and four recovered after the ordinary operation for hernia.

At University College Hospital, seven cases are reported, one followed by reduction, and no fluid was withdrawn from the sac; yet the impulse returned and the patient recovered; in four it failed entirely; in three of these the ordinary operation was performed successfully; the remaining case was mentioned at the time of operation. At the *post-mortem* examination no gas could be squeezed from the punctures of the needle.

Joints. In cases of effusion into the joints, much has been said and written, but I think now, in France especially, the importance of removing fluid from synovial cavities is fully recognized; and in this country it is practiced very much more frequently that it was a few years since. In a discussion that took place some years ago at the Academy of Medicine, Paris, in which Drs. Verneuil, Demarquay, and others took part, the conclusions arrived at were that pneumatic aspiration in hydrarthrosis of the knee-joint, both in its acute and chronic form, is a most useful remedy. In the acute, when the pain is most severe, owing to dislocation of the capsule of the joint, and in the chronic form, that will not yield to any other treatment, the method of performing the operation is, I think, of great importance. An elastic bandage should be applied both above and below the knee, or broad strips of plaster would do nearly as well. These should be drawn tighter as the contents of the joint are withdrawn, which takes place very slowly, owing to the viscidity of the fluid. The cannula should be from a one twentieth to one twelfth of an inch in diameter, and the puncture should be made in an upward direction, but at the external edge of the patella. When the joint is emptied, a little styptic collodion is painted over the puncture, a small pad of antiseptic gauze or lint placed over, and the whole joint evenly strapped up. The leg should be bandaged, and, if thought necessary, an ice-bag is applied to the joint, and the limb for a day or two kept at perfect rest by the application of poroplastic splints. Mr. Jessop has practiced aspiration successfully in pyemic abscess of the hip and knee-joints, and has also reported cases of pneumatic aspiration in ordinary dropsy of the knee-joint. In cases of fractured patella, with either effusion of serum or blood, Mr. Christopher Heath has now for some time practiced emptying the joint by aspiration before putting up the fracture; in this way he has obtained most happy results.

Abscesses. Deep abscesses of the thigh or ilium, lumbar and psoas abscesses, may all be well treated by aspiration. (British Medical Journal.)

THE COMMUNICABILITY OF TUBERCULOSIS.—M. Vallin read, before the "Société Medical des Hopitaux" of Paris, a report on this subject, which is thus summarized by the Journal of the American Medical Association: A phthisical patient should occupy a bed, and, if possible, his apartment, alone. Two arguments may be employed to effect this end: the danger to the healthy person of contamination, and the importance to the invalid of fresh air, unfouled by the breath of another. Children in particular should not be allowed to share the bed or room of a consumptive. The danger is enhanced if they are recovering from measles, bronchitis, or any other pulmonary affection that is attended with abrasion of the epithelial lining of the air-passages. Ulceration of the buccal, pharyngeal and laryngeal membranes, due to phthisis, appear to be specially prone to disseminate the disease—a fact so generally recognized by experimenters, that inoculations are now made directly into the peritoneal cavity. Verneuil's statement, that tuberculosis of the genital organs is particularly liable to propagation, though not yet proven, is probably correct. Hence, consumptives should be restricted in their sexual relations. For this and other reasons a tuberclous woman, or one predisposed to the disease, should be dissuaded from marrying, especially from nursing her offspring. In this respect the views of the Commission accord with those of the best obstetricians, who regard pregnancy and the *puerperium* as likely to favor the development and progress of destructive processes in the lungs. (See Playfair, Lusk, Spiegelberg, Schroeder, etc.) It is a mooted point whether or no the milk of a phthisical mother can infect her nursling; but this seems improbable unless the mammary gland be the seat of disease. However, M. Vallin suggests that great precaution be exercised in the consumption of milk and flesh of tuberculous animals, and that they be not admitted as articles of food before having been thoroughly cooked. The real prophylaxis of phthisis consists in the disinfection of the *sputa.* For this purpose are recommended solutions of chloride of zinc, ℥jss to the pint of water and glycerine, of chloride of lime, thymic, nitric and carbolic acids, or sulphate of copper. The fresh *sputa* are particularly resisting to the action of disinfectants, being unaffected by a solution of the bichloride of mercury of the strength of one part to two hundred. The experiments of Schill and Fischer, detailed in the Medical News, September 19, 1880, prove that the *sputum* of tuberculosis retains its virulence from three to seven months. As dried *sputa* are particularly dangerous as particles floating in the atmosphere, it is highly important that the apartments and clothing of consumptives be thoroughly disinfected. *Fomites* should be treated with steam at 212° F., and until so treated, scrupulously protected from the air within closed vessels. Rooms where phthisical patients have died, or resided long, should be fumigated with burning flowers of sulphur, ℥vijss to the cubic yard of space. Barracks, hospital wards, health resorts, etc., should from time to time, at least once a year, be likewise disinfected. When a patient leaves his apartment by day it should be thoroughly aired and heated. If ventilation be properly conducted, there need be no danger to the inmate, and by night this is very necessary in order to avoid confined air. Patients should not be allowed to expectorate into handkerchiefs and the like, or on the floor, but into receptacles filled with wet sand or sawdust, or, still better, with disinfectant solutions. In conclusion, the report stated that while the communicability of phthisis from one person to another is not proven, it is so probable as to render strict prophylaxis an imperative duty.

The foregoing fair statement of the present status of the investigations concerning the communicability and prophylaxis of tuberculosis, naturally leads to the inquiry, how it has happened that a strictly contagious disease, with abundant infectious sputa, has existed for centuries in every civilized nation on the globe, with perfect freedom of intercourse both in families and communities, without having long since infected and destroyed the whole human race?

And how is it that physicians examine minutely tuberculous patients and their sputa almost daily for years without the slightest harm? Or why is it that both physicians and nurses, in daily attendance on hospital wards constantly occupied by tuberculous patients, show no greater ratio of attacks of the disease than those who never enter such wards?

NIGHT TERRORS IN CHILDREN.—The picture which a child suffering with this condition presents is somewhat as follows (Moizard, in the *Res. mens. des Mal. de l' E.*): The child, say from three to six years of age, has gone to sleep apparently in his usual health. Two or three hours later he suddenly rises up in bed, with his eyes wide open, and evidently fixed upon some terrifying object; this may be to his imagination a monster, robbers, etc. His cries are pitiful, his words incoherent, and he fails to recognize friends who are around him. This condition may last from five minutes to half an hour; then comes a period of calm, he falls asleep again, and the next day is as well as ever, without recollection of the experience of the previous night. No convulsions have ever been observed as accompaniments to it. West relates the case of a child, eleven months old, who was troubled with gastro-intestinal disease attributable to dentition, who was in the habit of having seven or eight attacks in a single night. The accident usually happens several nights in succession, during a period of five or six weeks, and cases are related in which it has continued during a much longer period. The phenomena of somnambulism are sometimes observed in connection with this condition. It usually occurs in nervous, impressionable children, and very often in those whose constitution is weak, or who have been brought up in defiance of the rules of hygiene. The author divides the sufferers into two classes, according as there exists or does not exist a permanent lesion of the brain. In the latter class the most frequent cause of the trouble is to be found in disturbance of digestion. This reflex disturbance of the cerebral circulation is believed to be more frequent in children than in adults, and this, notwithstanding the fact that insomnia, somnolence, vertigo, vaso-motor disturbances, hysterical and other morbid phenomena are well-known results of digestive disorders in adults. The morbid action is directed upon the vaso-motor nervous system, and the author mentions as causative elements too much or too exciting food, too much alcoholic liquor and constipation. As to dentition, night terrors are much more frequently observed during the first than during the second dentition. Less frequent causes are intestinal worms, the irritation of certain skin diseases, and the absorption of certain drugs—belladonna, stramonium, and quinine being mentioned as examples. In the other class, in which cerebral lesions form an exciting cause, night terrors may be a preliminary indication of tubercular meningitis, cerebral sclerosis, cerebral tubercles, epilepsy, and hysteria. The prognosis is usually favorable excepting in cases in which severe cerebral lesions are present. The treatment should vary in accordance with the determining cause. Certain hygienic precautions of both physical and intellectual character should be observed in all cases. All cerebral excitement must be avoided, whether it be caused by the reading of fascinating books, or by listening to stories of a terrifying character. The subject should not be left alone in his bed-room, and when an attack comes on he should be soothed and sympathized with. Regular and healthful exercise should be insisted upon, and the diet should be light and unirritating. If dyspepsia co-exists, alkaline preparations, pepsin, or the tincture of nux vomica may be given. West is in favor of suitable doses of bromide of potassium and chloral for a calmative effect upon the nervous system. Quinine is also recommended as a useful drug in many cases. If the gums are hot and swollen, it will be eminently proper to relieve them by incision. (The Archives of Pediatrics.)

HYSTERIA IN CHILDREN.—Schafer is quoted by the *Arch. f. Kinderh.* as follows: The phenomena which are presented by children suffering from this condition are as varied as those which are seen in adults. With reference to disturbances of sensibility of the nervous system, there may appear hyperesthesia, anesthesia, and paresthesia, and these may be manifested by great sensitiveness to pressure in various localities, neuralgic pains, especially about the head and face, and painful joint affections, under the head of hyperesthesia. Under the head of anesthesia may be a general or local insusceptibility to pain, with more or less obtuseness of the senses in general. Paresthesiæ are seen mainly in the form of perverted sensations. In the domain of the motor nerves great variety is also manifested. The spasms may be either tonic or clonic, and embrace one or several muscles or groups of muscles. Not alone are the skeletal muscles thus involved, but the affection may include the muscular apparatus of the stomach, esophagus, vocal organs, and other organs of the body, and give rise to vomiting, stricture, cough and other phenomena. Hysterical paralyses are usually limited to the extremities of one or both sides, and are not infrequently associated with anesthesia, as in the genuine affections. Vaso-motor changes may also be a feature of this condition, leading to abnormalities in the blood-supply of parts and organs. Increased or diminished activity in the secreting power of the sweat glands may be mentioned in connection with this portion of the subject; also increased or diminished functional activity in the salivary glands, kidneys, and intestines. The psychical condition of an hysterical child is usually a disturbed one; he is apt to be irritable, egotistical, and unnatural, but there is seldom a development into insanity. The prognosis is somewhat better among children than among adults, still in children of an inherited hysterical tendency the prospects of complete recovery are not flattering. Remissions, however, of varying duration may be looked for, even in cases which do not promise well in regard to ultimate recovery.

Treatment: In regard to treatment, it should be remarked that prevention is often possible by careful attention to education, hygiene, etc. Plenty of exercise should be insisted upon, the mind should be directed away and apart from itself; especially should masturbation and other hurtful habits be guarded against. As to medicines, they are to be avoided as far as possible, the anti-hysterical drugs, valerian, assafetida, galbanum, bromide of potash, and musk, being only for extreme cases. Electricty and cold baths will often prove to be useful and tonic in their effects. During an hysterical spasm care should be taken that the patient does not injure himself, but sympathy should be withheld. In severe cases it may be necessary to administer chloral, chloroform or morphine; in others the free application of cold water to the surface of the body will be effective. In all cases the condition may be more effectually treated apart from the sympathy and credulity of home and friends. (*Ibid.*)

THE RESOLVING ACTION OF CALOMEL IN VERY MINUTE DOSES IN THE TREATMENT OF PNEUMONIA.—Chapois writes, in the *Bull. Gén. de Thérap:* The value of this means was suggested to the author by his experience with a case of pneumonia in a child twelve years of age, in which blisters, leeching, and other means of treatment have been unavailing. The eighteenth day of the disease had been reached and still resolution had not begun, nor had the fever abated. It then occurred to him to try the administration of calomel, in doses of two milligrams, every hour. Twenty-four hours later the patient was revisited, and was found to have a moist skin and a pulse of eighty per minute. The tongue was also moist and a sub-crepitant *râle redux* could be heard over the affected lung. Recovery followed without interruption. The same treatment was subsequently used by the author in many cases of pneumonia, at all ages, with complete satisfaction. The phenomena which usually follow the use of this agent for twenty-four to forty-eight hours are the following: Moisture of the skin, then of the tongue and the mouth; next a diminution of body heat, and of the sense of oppression. After fifteen or twenty doses have been taken there may be a fluid evacuation of the bowels. The author does not claim that calomel is a specific for pneumonia, and in some cases other remedies will answer equally well. The advantage of the very small doses is that a different end is sought from that which is manifest when purgative doses of calomel are given, the effect of the latter being to prostrate the individual already greatly weakened. Given in such small doses absorption is favored, the salivary glands, the liver, the intestinal, and other mucous glands, also the glands of the skin, are stimulated, in a word, there is a general derivative action. (*Ibid.*)

TREATMENT OF ASIATIC CHOLERA.—The prophylaxis of individuals (*Repertoire de Therapeutic Medicale*) who can not leave the choleraic homes consists simply in not deviating from the general laws of hygiene. It is, above all, necessary to preserve the ordinary habits of life. It is just as perilous for persons habituated to the use of alcoholic drinks to abstain completely as for a sober individual to enter into excesses. A gradual return to a healthy hygiene, if one was in the habit of swerving from it.

The greatest cleanliness in houses, in the preparations of food, or in the choice of beverages. If the source of water is unknown, it is best to heat and filter it. Preventive medicines should be used with the greatest caution, lest they irritate the stomach, or cause an undue excitement of digestive tube. We would not even advise the use of copper, though strongly recommended by the distinguished Dr. Burq, the metallotherapeutist.

We have great faith in the use of gaseous or atomized disinfectants. An exposure of a few minutes to the gases of hypoazotic acid, to atomized phenic acid or boric acid would be an excellent practice, it would at least prevent one from becoming the vehicle for transporting the disease.

Curative treatment. We must distinguish the treatment of the prodroma and of confirmed cholera:

(*a*). Treatment of prodroma: These are digestive or nervous troubles. If troubled digestion, if painful and slow, resort to immediate and absolute repose, and place in the best possible hygienic condition, and give four, six, or eight drops of some anodyne.

If there is colic and diarrhea, repose in bed, cataplasm upon the abdomen, warm bath, astringent drinks of sulphuric lemonade. If the symptoms are intense, resort to bismuth, or even opium. Powdered opium, twenty-five milligrams.

Subnitrate of bismuth, one gram to be given at once, and repeated every two hours. Sleep must not be interrupted. Against the nervous symptoms opium is also the best; antispasmodics and warm bath may be added.

(*b*). Treatment of confirmed cholera. Here again the less intense must be distinguished from the grave symptoms.

The frequent evacuations and algidity must be at once combated.

Begin by giving fifteen to twenty drops of Sydenham's laudanum in a little water, even forty drops may be given in twenty-four hours. At the same time enemas of a decoction of rhatany and laudanum, small quantities of ice, of champagne frappé.

The uncontrollable vomiting can sometimes be arrested by sinapisms over the stomach, or instantaneous blistering of the abdomen with spirits of ammonia or chloroform. A piece of punk saturated in chloroform placed on the stomach will cause vesication in five minutes. If the symptoms improve, give a little warm tea of mint or warm wine, also the following prescription :

℞. Ether,	1 gram ;
Acetate of ammonia,	4–8 grams ;
Tr. of anise seed,	4 grams ;
Julep,	125 grams.

While these remedies are being prepared, aromatic frictions may be employed, sinapism, massage, urtication, application of hot water, a flannel dipped in turpentine placed on the stomach and a hot smoothing iron run over it.

In very grave cases, when absorption by the digestive tube is entirely gone, hypodermic injections of ether or of morphine may be tried, atomizing with alcohol.

If reaction has taken place, an expectant treatment is advisable.

The résumé of the above is, briefly, when called to a case of Asiatic cholera : (1) Produce heat by all possible means, externally by friction, hot applications, internally by warm punch, champagne. (2) When there is vomiting and persistent purging, give injection of rhatany, laudanum, ice, also subcutaneous injections of ether and morphine. (3) When it is evident that no absorption is going on, rely upon subcutaneous injection and atomization of alcohol. (St. Louis Med. and Surg. Journal.)

The Treatment of Ringworm.—Alder Smith, F. R. C. S., London, writes, in the British Medical Journal, on this subject as follows : I have been trying for some time to find out what vehicle penetrates most deeply into the hair-follicles, and think it is chloroform. Chrysophanic acid is a very good parasiticide ; and, though it is insoluble in spirit and ether, yet it is soluble in chloroform. Chloroform also dissolves the fatty matter out of the hair-follicles, and thus allows the parasiticide dissolved in it to penetrate deeply. During the last year I have used a solution of seven grains of the acid to the ounce of chloroform to all cases of recent ringworm, and believe it is the most efficient treatment I have yet tried.

The small patches should be carefully marked out by cutting the hair very closely on them, and the chloroform solution should be well pressed and dabbed into the places with a minute sponge-mop for five minutes, two or three times a day, according to the amount of irritation produced. The aim of the treatment is not to produce scabs, but to get the solution to penetrate deeply. The sponge-mop should not be much larger than a big pea, and should be continually dipped into the chloroform-bottle, as the solution soon evaporates while it is pressed into the diseased spot, and leaves the yellow acid dry on the place. Great care must be taken that the solution does not run on to the forehead or into the eyes, and that the person using it does not inhale the vapor. I always give full directions about the care necessary in using such a potent remedy, and only apply it to small places of the disease. It is well for the nurse to keep her face away from the sponge, and to use the chloroform in a current of air, and not in a small room. The places should be well washed every morning with hot water and soap, to remove any sebaceous matter or crusts, and the hair should be kept closely cut on them till the new hair appears, which is generally in about two to three months; but the remedy should be continued till all diseased stumps have come out.

PARACENTESIS THORACIS AS A THERAPEUTIC AGENT. — W. Henry White, M. D., Assistant Physician to the Royal Hospital for Diseases of the Chest, read a paper on this subject before the British Medical Association, from which we copy the following: In all cases of pleuritic effusion, whether in those in whom the physical signs are such as to place the diagnosis beyond question, or in those where equivocal signs lead to hesitation as to the existence of fluid, it is advisable to insert a small needle for diagnostic purposes; for the value of this procedure is, that in the former class of cases it demonstrates the character of the fluid, while in the latter it, generally speaking, settles the question of existence or non-existence of fluid. This puncture is as harmless in my experience as it is valuable; but care should, of course, be taken that the needle should be suitable in caliber and thoroughly clean.

1. In pleuritic effusion, early evacuation of the fluid is advocated by the siphon principle, discarding the aspirator.

2. In empyema, pus should be withdrawn at once, by the siphon or by the aspirator, with the use of the manometer, and the pleural cavity irrigated.

3. Incision is called for where large empyemata have existed for some time in old or rigid chests, or where irrigation, having been practiced several times, has failed.

4. Where incision fails to effect a cure, resort must be had to resection of ribs.

5. Paracentesis, with drainage, should be employed in the treatment of lung-cavities. (British Medical Journal.)

TREATMENT OF THE INITIAL PHENOMENA OF SCARLET FEVER WITH SULPHATE OF QUININE.—Diberder, in *Jour. de Méd. de Paris*, writes: In the development of scarlet fever it is noticeable that the fever follows a regular course, with exacerbations which recur periodically. Paying attention to these intermissions, and administering sulphate of quinine from the beginning, it was observed by the author that the intensity of the fever was lessened and the recurrences were retarded until the eruption had almost disappeared. Each recurrence attended or called forth renewed activity in the development of the eruption, the last recurrence being the most marked one. It is without danger, however, if the quinine has been given in suitable doses. In severe cases of the disease it is believed that quinine lessens their gravity. The accidents which follow scarlatina are due to a retention of the poisonous principle in the blood, which acts similarly to the poisonous principle in malarial fever. The difference between them consists in the rapid progress of the scarlatinal elements. Quinine given as a preventive is a most effective means for this purpose, or for combating them when they have already appeared. The author believes that he is the first who published a recommendation of the use of quinine in this disease. In severe cases he recommends the daily use of a gram of the sulphate of quinine, for two or three days, or until the exacerbations have ceased. (The Archives of Pediatrics.)

CLUB-FOOT: IS EXCISION OF THE TARSUS NECESSARY IN CHILDREN?—Dr. de Forest Willard, M. D., Lecturer on Orthopedic Surgery, University of Pennsylvania, read a paper on this subject before the Medical Society of Pennsylvania, which he concludes as follows: (1) Even severe cases of talipes should not be considered incurable by moderate means, simply because they have relapsed after imperfect treatment by either surgeon or patient. Careful supervision may still accomplish a good result. (2) In children under ten, even in extreme degrees of deformity, powerful manual force, with subcutaneous division of all the contracted tissues, will restore the foot without section of the bones, and should be first attempted. The degree of force required may be very great, but even if carried to rupture of tarsal ligaments, still leaves the injury subcutaneous. Should the hand fail, screw power is allowable. (3) Fixation in gypsum splints in the straight position for a few weeks, followed by persistent manipulation and the use of apparatus, will give a better walking foot than is attainable by resection. (4) Tarsotomy is a valuable operation in cases which defy ordinary treatment, especially in adults, where the bones are irreducible and the ligaments strong. The operation should always be done antiseptically. The removal of a wedge-shaped piece is preferable to either excision of the astragalus or of the cuboid, the latter giving the poorest results.

THE TREATMENT OF GOITRE.—Dr. Morell Mackenzie read a paper on this subject. After pointing out the extreme importance of carefully distinguishing the various kinds of goitre, and excluding exophthalmic goitre from consideration, he maintained the following propositions: (1) Simple goitre (enlargement of the thyroid body) of recent origin and occurring in young persons can, in the absence of endemic influences, generally be cured by the administration of iodide of potassium, and in many cases by counter-irritation. (2) Fibrous goitre is best treated by parenchymatous injections of tincture of iodine. (3) Cystic goitre can be most readily cured by conversion of the cyst into a chronic abscess, which is effected by emptying the sac, injecting a small quantity of a solution of perchloride of iron, and allowing it to remain within the sac for three or four days. (4) When the cyst is of considerable size it should not be emptied at once, but should be tapped two or three times before the injection is used. (5) Removal of the thyroid body is a dangerous operation which should never be performed for mere cosmetic purposes, nor even for the relief of urgent dyspnea, except when less radical measures have failed. (British Medical Journal.)

GALLIC ACID IN HEMORRHAGES OF THE URINARY ORGANS.—It is the best hemostatic in hematuria, but it must be given in large and frequent doses, for it is rapidly eliminated with the urine. Its use will arrest the bleeding from the mucous lining of the renal pelvis, of the ureters, of the bladder and the urethra ; it acts also favorably in fungoid tumors of the kidneys, of the ureters, bladder, in hypertrophies of the prostate with large vascular dilatation. The best way to give it is with glycerine one fourth. (St. Louis Medical and Surgical Journal.)

COLD WATER TREATMENT OF TYPHOID FEVER.—Heubner, of Leipzig, uses baths, not only or even chiefly on account of the high temperature, but also for their reflex action on the vessels of the skin, for which purpose they must sometimes be lukewarm, or even warm. For young and robust patients he often orders cold baths, often lasting from fifteen to twenty minutes; but when the temperature is low, or the patient either a child or an aged individual, a warmer bath is necessary, followed, however, in all cases by cold affusion over the head and neck. He never disturbs his patients when asleep in order to give a bath. He concludes his article by recommending small doses of calomel to be given early in the illness, as in the form of corrosive sublimate, into which it is changed as it passes through the organism, it will act antiseptically on the materies morbi. (Practitioner.)

FOLLICULAR TONSILLITIS.—Dr. F. P. Atkinson writes, in the Practitioner, that the usual symptoms of this form of tonsillitis are chilliness, followed by heat and dryness of skin, pain in the head and limbs, more especially the shoulders, and occasionally there is congestion of the eyes and nose, together with herpetic eruptions about the lips. The temperature is above the natural, often as high as one hundred and three degrees. The tongue is coated, and on the tonsils, which are somewhat red and swollen, are some small, round, slightly elevated buff-colored patches. There is generally some pain in swallowing, but as a rule it is not very great.

Treatment: A mixture consisting of effervescing citrate of potash, with chlorate of potash, or biborate of soda, and sweet spirits of niter taken every four hours, and a gargle consisting of thirty grains of boracic acid; two drams of glycerine; and one ounce of the compound infusion of roses, usually affords distinct relief. The diet should be light and nourishing, viz., corn flour, milk, and beef-tea.

THE TREATMENT OF DIPHTHERIA.—Dr. Berleme Nix (Denmark) read a paper on the treatment of diphtheria. He maintained that diphtheria was a disease produced by a specific contagion. The disease was in the very beginning located in the throat. The organism caught the contagion from the false membrane. Against the false membrane the chief treatment is to be directed, paying all regard to the patient's state of health in general. It was of the greatest importance to begin the treatment as early as possible. Caustics were useless, astringent and solvent drugs ineffective. Medicine was of no use, except, in some cases, tonics and stimulants. The treatment should be instrumental, and should combine isolation, strong food and stimulants and fresh air; cleaning of the throat by gargles; syringing with disinfectants; removal of the false membrane by means of the sharp spoon; followed by cauterization of the scraped surface with solid nitrate of silver. (British Med. Jour.)

CROUP AND DIPHTHERITIC ANGINA, AND ITS RATIONAL TREATMENT.—Dr. Alvares, in a monograph on this subject, is quoted in the *Revista de Ciencias Medicas* as saying: (1) The disease is infectious and parasitic in character (croup and laryngeal diphtheria being considered synonymous), and is due to the propagation of a micro-organism which is the *zygodesmus fuscus* of Letzerich, the *micrococcus diphthericus* of Klebs. The disease always presents local phenomena at first, and subsequently those of general infection. (2) The diagnosis is not complete unless diphtheritic membranes are found; there can be no true diphtheritic croup without them. (3) True croup, or laryngeal diphtheria is perfectly curable. (4) If the disease has not extended to the bronchi, the course is rapid and the result is assured. (We suppose he means that this is the case in approved instances, with approved treatment.) (The Archives of Pediatrics.)

SALT AND CHOLERA.—(*Journal des Medicines Suisses*, in St. Louis Med. and Surg. Journal.) (1) Inasmuch as the production of hydrochloric acid in a healthy stomach is sensibly augmented by the ingestion of culinary salt, and that during an epidemic of cholera persons enjoying good digestion possess the best preventive against its attacks, it may suffice simply to add a teaspoonful or two of salt to the ordinary condiments in use to act as a perfect prophylactic. (2) A stomach in which the quantity of hydrochloric acid is pathologically diminished should receive three times a day a dessertspoonful of salt. (3) Where there is an excess of acid, it is useless to take the salt. (4) Excess of drinks of any kind should be avoided, as it dilutes too much the gastric juice, and thus impairs digestion.

TREATMENT OF DIABETES WITH NUX VOMICA AND MINERAL ACIDS.—This has been successfully administered to three diabetic young men, conjointly with ordinary regimen, that is, with meat, green vegetables, but abstinence from farinaceous food. It is thought that the action is due to its effect upon the atony oı the stomach. Besides these three cases, good results by other physicians in many cases, both in private and in hospital practice, are reported. (*Ibid.*)

LAPAROTOMY FOR VOLVULUS.—Dr. Medini performed laparotomy in the Ospitale Maggiore of Bologna, in April last, for twisting of the intestine. The operation was quite successful, and the patient (a male, aged sixty-three) may be considered cured. Notwithstanding the manipulation required to disentangle the intestinal coils, and to separate the adhesions between them, the case progressed without serious symptoms.

CHROMIC ACID IN ULCERS OF THE TONGUE.—J. Paget advised the use of a concentrated solution of chromic acid in the psoriasis of the tongue. Butlin used a solution (0.5 to 100) by means of a brush in the different varieties of ulcer of the same organ. The effect of chromic acid in secondary syphilitic ulceration was highly satisfactory, while the rhagades of the tertiary stage healed very kindly. (The Analectic.)

CANTHARIDES IN INCONTINENCE OF URINE.—Five drops of tincture of cantharides, three times a day, is a good remedy for children suffering from incontinence of urine. It renders the neck of the bladder sensitive, and the stimulus of the urine keeps the sphincter tonically closed till voluntarily overcome at the micturition time. In children, want of tonic contraction in the sphincter, and not excessive sensitiveness and spasmodic effort in the body of the bladder, is the most frequent cause of nocturnal enuresis. (Dr. Roche, in Lancet.)

Notes and Queries.

A Medical Fable.—Once upon a time a poor but humane physician was riding along a road which led by a dark forest, when he saw by the wayside a sick and miserable dog which had lain down to die. Moved with pity, he got down from his carriage, picked up the poor animal tenderly, and gave it some food and drink. Suddenly the dog vanished, and he saw standing before him a beautiful fairy.

"You have saved me from a miserable doom by your compassion," she said. "Command now any thing you wish and it shall be yours."

The astonished physician replied, "I am a poor man. I should like to be rich."

The fairy waved her wand, and extended to him a piece of paper and a bottle filled with a dark-colored fluid. "Here," she said, "is a prescription for an Infallible Compound Hair-Restorer. It will never fail, and it has been indorsed by all the leading clergymen on both continents. The world is yours! Do you wish more?"

"I am a quiet man," replied the doctor, "and little known. I should like to be famous."

"You shall be more; you shall be immortal." Waving her wand again, she presented to him a small, dark, and curiously shaped instrument. "See," she exclaimed, "it is a new and 'Unquestionably Perfect Pessary.' It radically restores every malposition. Your name is blown into the side. Generations of suffering women and successful doctors will read, and bless you. I have tried it myself," she added, blushing a little, and vanished. (Boston Medical and Surgical Journal.)

Harvey.—The Harveian Oration for 1884 was delivered by Dr. J. Russell Reynolds. The grandfather of the speaker, Dr.

Henry Revell Reynolds, delivered the Harveian Oration before the President and Fellows of the Royal College of Physicians one hundred and eight years before. We wish our space permitted our giving the address entire, but we are limited to a few brief extracts:

Harvey's work of discovery, like that of all great discoveries, into whatever reach of knowledge and of thought they may have broken, was not unprepared. Men were eagerly looking for a light that they felt sure was coming; and there were streaks of dawn in the eastern sky that led them to find the man and the truth for which they had been seeking; so that what before had been mysterious was now clear; what had been dark was now illumined; what they had sought for, now they found.

The contents of the "shell," on the like of which Harvey afterward wrote so much, were teeming with a growing life that showed but vague signs upon its smooth, unbroken surface; but Harvey broke the shell, and there burst forth at once into a seen life a form and meaning for which all the growing processes within that shell were made. There was a new thing, a new thought, a new generalization. There was the solution of the problem of yesterday, the answered riddle, the platform for to-morrow's work. All honor to those who, toiling slowly in the night, or in the dawn with its mist and mystery, have yet made some headway forward and upward, and prepared the path for one among them who has shared their labor, their weariness, their disappointments, and their woes, but who suddenly makes, as it were, a leap to a wider range or to a higher level, and thence holds out the hand of strength and fellowship to place them by his side. We honor the worker, wherever he may be, so long as his labor is honest and is his best; but we have only scant words to express the regard in which we hold the man whose discerning thought and practiced skill have lifted all workmen higher; opened to them new ranges for their toil; given them new methods to follow; and left behind him footprints in which some of them may tread as he goes before them and passes out of sight.

The peoples in this world have been always fighting, from the days of Cain and Abel until now; but yet there is a book, written not so very long ago, with the title of "The Fifteen Decisive Battles of the World," and perhaps time is yet too young for any one to say that a sixteenth has been fought. But in the great conflicts of schools of science, of thought, and of discovery with regard to human life, can we put our finger upon even so many as "fifteen" who have made such marks in history that their works have followed them as "decisive battles" gained? If there be, let us gladly thank all the great heroes who lead these fights; but if we look among them, there is no one whom the gathered-up roll of leaders in the world of thought can show who stands on a higher place than does our own immortal Harvey.

Throughout Harvey's writings there is an eminently religious tone, a devout and reverential recognition of God; not only as the great primal, ever-acting force, behind, outside, and before all the works of nature, but as the Being, "the Almighty and Eternal God," to whom, as he says in his last will and testament, "I doe most humbly render my soule (as to) Him that gave it; and to my blessed Lord and Savior Jesus Christ." But Harvey did not let his religious convictions hold him in the tight grasp of what has been termed the "theologic stage" of development; nothing prevented him from seeing all that he could see, and frankly telling all that he believed. If Harvey, though a devout believer in God, was yet free from all the restraints of the so-called "theologic stage," he also, although a learned and keen metaphysician, had escaped from the trammels of what has been termed the "metaphysic stage." If it be asked what was, then, Harvey's position, and what was the method he employed, my reply is that he, being one of "the freemen whom the truth makes free," held the position of an observer, a questioner, and interpreter of Nature. He declares himself "the partisan of truth alone."

The intense love that Harvey felt for Nature led him to choose her as his constant companion and his guide in the search for truth. There was nothing that she could show him that was too great for him to attempt to understand; nothing too small for him to pass by or to regard with other feelings than those of affection, of reverence, and wonder. The teaching of Nature was to him absolute in its authority. "The facts cognizable by the senses," he says, "wait upon no opinions. . . . The works of Nature bow to no antiquity; for, indeed, there is nothing either more ancient or of higher authority than Nature." Harvey "observed" the facts before him, and he had eyes to see; but not content with the "experiments prepared by Nature," he "made" new facts by his skillful manipulation of the materials that were lying at his hand; and thus he asked pertinent questions, and obtained their answers. He thought about all these things; he reasoned upon them all; he sought and found all the help that metaphysical method and learning of the schools could render him; and then he became their "interpreter."

His mode of progression may be defined as "longitudinarian" —that is, he looked and worked straight from end to the end. His line was the shortest one that he could draw between the simplest, the first, fact observed and the most remote object of his gaze. He thought "in a straight line;" he never swerved in his forward march; but, as he passed onward, he saw things outlying on by-paths, but his own force of movement dragged them into his own well-chosen course, and he made them help him on his way. Arrived at his goal, he arranged his materials with care, and proceeded to explain their meaning by a simple inductive process. But, still keeping the same point in view, he approached it from other sides. Sometimes his lines, although converging, did not meet at the point he quite expected. Here his power of thinking outside of and beyond the facts came to help him; he made new observations, new experiments, and at last focussed them on a point made bright by the rays of his own genius. Dr. Ent spoke but the truth when he said, "Our Harvey rather seems as though discovery were natural to him —a thing of ease and of course, a matter of ordinary business, though he may nevertheless have expended infinite labor and study on his works."

Boldness was a great feature of Harvey's character when he told any of the truths he knew. "It were," he says, "disgraceful . . with this most spacious and admirable realm of Nature before us . . did we take the reports of others upon trust. . . Nature is herself to be addressed; and the paths she shows us are to be boldly trodden. But Harvey, although bold and strong, was meek, cautious, and polite. He preferred "being wise with the few . . to going wrong with the many."

In much of his writing Harvey was both humorous and eloquent, and he could exhibit high indignation when he dealt with his detractors, yet "to return evil speaking with evil speaking" he held to be unworthy in a philosopher and a searcher after truth. But, with the exception of a few scattered passages of just wrath, Harvey was always dignified, lenient, and calm. He was, as his contemporary Ent said of him, "beyond all praise;" and it may be justly repeated of him, when regarding the strength and gentleness of his great heart:

> "He has outsoared the shadow of our night,
> Envy and calumny, and hate and pain,
> And that unrest which men miscall delight
> Can touch him not and torture not again."

He acquired fame, which certainly was not to him "the spur" that might his

> "clear spirit raise
> To scorn delights and live laborious days."

It may be, as was said of others in his day, that it was "the last infirmity of noble minds;" but it was not so with our illustrious Harvey. "Think me not eager," he says, "for vainglorious fame, rather than anxious to lay before you observations that are true, and that are derived immediately from the nature of things." Truth was what he sought, and what he found; and if fame went with him, and followed him to his grave, and waits upon him now, there was no seeking for it upon his part.

Harvey's great achievements were the result of his method, viz., that of observation and experiment. Nature "displays" much; "the heavens declare the glory of God," and she is always "revealing" as she moves, and she is never still; but Nature is ever moving "onward" to some unknown goal, and at each onward step she, while revealing, "hides," leaves behind in her wake something of the past, which now we can not see, and presents new facts and new combinations for man—one of her factors—to interpret.

Harvey was one of her keenest and most devout interpreters. To him, as he stood by and listened, the Nature-spirit sang, and with profoundest meaning,

> "So work I at Time's rushing loom,
> And weave the living robe of God."

In reverence Harvey knelt before her; but, not satisfied with what he saw and heard, he asked her questions—and this with no intention of confusing her, or misreading what she had already said or written—for he was just the kind of questioner to ask the kind of questions to which she readily gave answer. He examined her "in chief" to find out the right; he "cross-examined" her, but in no unfriendly tone, to bring her answer to a "yes" or "no," and so disprove the wrong, the untruth which other questioners had placed in evidence. "Nature," said he to Ent, "is the best and most faithful interpreter of her own secrets; and what she presents either more briefly or obscurely in one department, that she explains more fully and clearly in another. . . Truth," he continues, "scarce wants an advocate." Nature to him was a perfect verity; the one witness that could never be abashed or shaken; the one witness in whom there could be no false way; the one witness who could not lie. There was no need to put her "on her oath," for she, in her prime, had been adjured by the Most High God to tell "the truth, and nothing but the truth." This she has always done, and now is doing, and will, as we believe, go on to do.

But can she tell "the whole truth?" Will Nature ever tell or teach us this? I can not presume to answer the question which yet I dare to ask; but my own conviction is that she neither will nor can do this thing until the last hour of time has struck, and has ushered in the dawn of that one long, clear, eternal day, whose "sun shall no more go down," and in whose ever-growing light we may hail the presence of that

> "far-off Divine event,
> To which the whole creation moves,"

NO CURE, NO PAY.—A rather unusual case has lately been submitted to Judge Hagner in the Circuit Court at Washington (Evening Star). This was a suit to recover from Dr. W. H. Hale one hundred dollars paid him by a colored man, named Meredith, under a guarantee of Hale that for that sum he would cure Meredith's son of pulmonary consumption, and in case he failed he would refund the money. The boy died, and Meredith sued Hale before a justice of the peace and obtained judgment. The case was re-opened, and judgment was given against Hale a second time, and he appealed. After the testimony of the parties was given, Judge Hagner affirmed the judgment below. He declined to consider the defendant's bill in bar for attending Meredith's wife, and decided the case solely as to the original claim. Judge Hagner read the heading of Dr. Hale's circular—"Hearth and Home, sworn circulation 63,000 copies monthly"—and the signed guarantee to cure the son, and said, "This guarantee was to perform an impossibility, to reverse a decree of the Almighty, and was akin to gypsying and voudooism, which says, 'I don't want your money, but as I must touch silver I must have it before I can succeed.' The justice was right in his decision that the money should be paid back, and this court affirms that decision."

DEATH OF PROFESSOR BEMISS.—Dr. Samuel Merrifield Bemiss died suddenly at his home in New Orleans, November 17th, aged sixty-three years. Deceased was born in Nelson County, Kentucky. He graduated at the University of New York. He begun practice at Bloomfield, Kentucky. He subsequently removed to Louisville, where he became Professor of the Theory and Practice of Medicine in the University of Louisville. He served as a Confederate surgeon throughout the war, and at its close accepted the chair of Theory and Practice of Medicine in the University of Louisiana, at New Orleans, a position he held up to the time of his death. He edited for many years the New Orleans Medical and Surgical Journal. Dr. Bemiss was a popular practitioner, an instructive teacher, and an enlightened citizen, whose loss will be keenly felt by a very large circle of friends both in New Orleans and in his old Kentucky home. His remains were brought to Louisville for interment.

THE TRUE VALUE OF NERVE-STRETCHING IN THE TREATMENT OF THE PRINCIPAL SYMPTOMS OF LOCOMOTOR ATAXY.—At the congress of German naturalists, held in Salzburg last September, the question of the value of nerve-stretching in locomotor ataxy was thoroughly discussed, and all were agreed that after a transient stage of amelioration the disease advanced unchecked. This opinion has since been confirmed at the meeting of the Verein für innere Medecin, of Berlin, held on the 31st of October, when Drs. Bernhardt, Leyden, Litten, Goldammer, and Israel cited numerous facts which placed the conclusion beyond doubt, that elongation of the great nerve-trunks in locomotor ataxy can lessen the darting pains for a few weeks and renew cutaneous sensibility and equilibrium ; but the pains, driven from their original seat, appear in the trunk, the loss of equilibrium is soon more marked than before, and the skin again loses its sensibility. (*Deutsche Med. Woch.*)

DR. KOCH OF BERLIN.—The Berlin correspondent of the Pall Mall Gazette writes : The hero of the hour at Berlin at present is Dr. Koch, the president of the German Cholera Commission. In appearance he is of medium height, very thin, with a serious, energetic, *spirituelle* student's face. His beard is brown, but his hair is becoming gray ; and this, together with his glasses, makes him seem to be older than forty or forty-one. He studied medicine at Gottingen, and afterward pursued his microscopic studies of bacteria at Breslau, under Professor Cohn. Geheimer Rath Koch has been known to the scientific world for some time as a conscientious and accurate observer; but to the non-scientific world his name was unknown until his discovery of the cholera germ.

DEATH OF DR. LOUIS A. DUGAS.—Dr. Dugas died at his home in Augusta, Ga., on the 19th of October. He was born in Georgia, and lived there his long and useful life. He graduated at the University of Maryland in 1827; spent four years abroad in study; returned to Augusta and began the practice of his profession; he was one of the founders of the Medical College of Georgia; he was a member of many medical societies, home and foreign; he was one of the editors of the Southern Medical and Surgical Journal. Wherever he was placed he did his duty alike to science, the profession, and the public.

DRINKS FOR THE SICK.—*Orange Whey:* The juice of one orange to one pint of sweet milk. Heat slowly until curds form, strain and cool.

Egg-Lemonade: White of one egg, one tablespoonful pulverized sugar, juice of one lemon, one goblet water. Beat together.

Sago-Milk: Three tablespoonfuls sago soaked in a cup of cold water one hour; add three cupfuls boiling milk; sweeten and flavor to taste. Simmer slowly a half-hour. Eat warm.

Baked Milk: Put a half-gallon of milk in a jar, and tie it down with writing-paper. Let it stand in a moderate oven eight or ten hours. It will be like cream, and is very nutritious.

Punch without Liquor: Take the juice of six oranges and six lemons, adding sugar to suit the taste. Put to this a quantity of pounded ice and some sliced pine-apple, pouring over it two quarts of water. This is an agreeable summer beverage for any body, sick or well.

HOSPITALS AT WINNEPEG.—Dr. Henry H. Chown, of Winnepeg, Manitoba, writes in an unnecessarily indignant tone regarding an item in The Record, which says that Winnepeg, having a medical school, "is about to start a hospital." Our correspondent says that the hospital which is about to be started is not the first but the third in that city, and that it is doubtful if any college has started with greater hospital advantages than the Manitoba Medical School. We are very glad to learn this, and to correct any misapprehension regarding the educational facilities of Manitoba.

THE THERAPEUTIC GAZETTE, established and published by that very enterprising and liberal pharmacist, Mr. George S. Davis, of Detroit, will hereafter be edited in Philadelphia, by Prof. H. C. Wood, M. D., and Prof. R. M. Smith, M. D. The place of publication will continue to be Detroit.

While we part with regret from the former editor, Dr. Brodie, who has so well and so long directed the fortunes of the Gazette, it is a great pleasure to know that Dr. Wood has returned to a field in which he occupied a justly prominent place.

DEATH OF PROF. F. A. ROSS, M.D.—The death of this eminent man occurred at his home in Mobile, Ala., October 17th. Few physicians were better known in the South than Dr. Ross, and not one of all the long line of worthies who have adorned the profession in Alabama will be more missed than he. Well-educated, traveled, experienced, active, industrious, brave, strong, suave, and sympathetic, he will be mourned by all who knew him. The death of such a man, in his very prime, is a public calamity.

"LADY MEDICALS."—"Although the Medical School for Women in London has been open some eight or nine years, only some score or so of lady doctors have been launched upon mankind; but this limited supply has far exceeded the demand, at least as far as England is concerned. Only about two or three lady doctors, I am told, can earn a living by the private practice of their profession in this country."

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